IMPACT OF QUALITY MANAGEMENT PRACTICES ON INNOVATION PERFORMANCE IN HOSPITALS WITH THE INTERVENING ROLES OF QUALITY CULTURE AND INNOVATION STRATEGY

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DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2018

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Thesis Submitted to
School of Business Management, College of Business,
Universiti Utara Malaysia,
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy

Pusat Pengajian Pengurusan Perniagaan
(School of Business Management)

Kolej Perniagaan
(College of Business)

Universiti Utara Malaysia

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Program Pengajian *(Programme of Study)*	**Doctor of Philosophy**
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ABSTRACT

The main objective of this study is to examine the effect of the Quality Management practices (QMPs) on innovation performance in the Kingdom of Saudi Arabia (KSA) hospitals. Additionally, the mediating effect of innovation strategy, quality culture and moderating effect of transformation leadership were examined between relationship of QMPs and innovation performance in hospitals of KSA. Data were collected from a population of 268 hospitals in the KSA using a cross-sectional study. A survey method was used for data collection and the questionnaires were personally-administered. Samples of 159 respondents were selected from the hospitals' directors using stratified random sampling. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to test the hypotheses in this study. The results showed that the construct of QMPs positively affect innovation performance in Saudi hospitals. With regard to the mediation of quality culture and innovation strategy, the results proved that both variables have a partial mediation role in the relationship between QMPs and innovation performance. Finally, the results showed that transformational leadership moderates the relationship between QMPs and innovation performance. The results of this study provide important insights to the hospital administrators, policy-makers and researchers in order to have a greater understanding of the effect of quality management practices, quality culture, innovation strategy, transformational leadership and innovation performance. The study concludes that providing quality culture in hospitals positively influences the performance of hospital employees. The health policy-makers should encourage hospital administrators to improve their transformational leadership which will also provide opportunities for the employees to enhance innovation performance in KSA Hospitals.

Keywords: Quality management practices, quality culture, innovation strategy, and innovation performance.

ABSTRAK

Objektif utama bagi kajian ini adalah untuk menyelidik kesan amalan pengurusan kualiti (QMPs) terhadap prestasi inovasi di hospital-hospital dalam kerajaan Arab Saudi (KSA). Di samping itu, kesan pengantara strategi inovasi, budaya kualiti dan kesan penyederhanaan kepimpinan transformasi diteliti bagi melihat hubungan di antara QMPs dengan inovasi prestasi hospital-hospital di KSA. Data dikumpulkan daripada populasi 268 buah hospital di Arab Saudi dengan menggunakan satu kajian rentas. Kaedah tinjauan digunakan untuk pengumpulan data dan borang soal selidik ini telah diedar secara peribadi. Sebanyak 159 sampel daripada responden telah dipilih dari kalangan pengarah hospital dengan menggunakan persampelan rawak berstrata. Model persamaan kuasa dua terkecil separa berstruktur (PLS-SEM) telah digunakan untuk menguji hipotesis dalam kajian ini. Hasil kajian menunjukkan bahawa konstruk daripada QMPs mempengaruhi prestasi inovasi di hospital Arab Saudi secara positif. Berhubung dengan pengantaraan budaya kualiti dan strategi inovasi pula, hasil kajian membuktikan bahawa kedua-dua pemboleh ubah mempunyai peranan sebagai sebahagian daripada pengantaraan dalam hubungan di antara QMPs dengan prestasi inovasi. Akhir sekali, hasil kajian menunjukkan bahawa kepimpinan transformasi menyederhanakan hubungan di antara QMPs dengan prestasi inovasi. Hasil kajian ini penting kepada para pentadbir hospital, pembuat dasar dan penyelidik untuk memperoleh pemahaman yang lebih mendalam mengenai kesan daripada amalan pengurusan kualiti, budaya kualiti, strategi inovasi, transformasi kepimpinan dan inovasi prestasi. Kajian ini turut menyimpulkan bahawa penyediaan budaya kualiti di hospital-hospital mempengaruhi prestasi kakitangan hospital secara positif. Pembuat dasar yang bertanggungjawab harus menggalakkan pentadbir hospital untuk memperbaiki transformasi kepimpinan mereka yang juga akan menyediakan peluang untuk pekerja meningkatkan pencapaian inovasi di hospital-hospital dalam KSA.

Kata kunci: Amalan pengurusan kualiti, budaya kualiti, strategi inovasi, dan prestasi inovasi.

ACKNOWLEDGEMENTS

Firstly, I would like to express my sincere gratitude to my supervisor Prof. Dr. Rushami for his invaluable guidance and support throughout my research and writing this thesis. I would also like to thank my supervisor Prof. Dr. Sany for his insightful comments and encouragement. I could not have imagined having a better advisors for my PhD studies, which I greatly appreciate. Sincere thanks also go to the library and support staff at the university for their helpful assistance, and to my fellow PhD students who saw me through the highs and the lows.

Last but not least, I would like to thank my family: my mother / brothers / sisters / wives / children for their love and understanding, and for supporting me spiritually and emotionally throughout my PhD journey. I could not have completed this thesis without their support.

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LIST OF ABBREVIATIONS

KSA: KINGDOM OF SAUDIA ARABIA

MOH: MINISTRY OF HEALTH

QMPs: QUALITY MANAGEMENT PRACTICES

IP: INNOVATION PERFORMANC

QC: QUALITY CULTURE

IS: INNOVATION STRATEGY

TL: TRANSFORMATIONAL LEADERSHIP

EI: EMPLOYEE INVOLVEMENT

CF: CUSTOMER FOCUS

RD: ROLE OF QUALITY DEPARTMENT

SQ: STRATEGIC MANAGEMENT

PM: PROCESS MANAGEMENT

IA: INFORMATION AND ANALYSIS

CI: CONTINUES IMPROVEMENT

TE: TRAINING AND EDUCATION

CHAPTER ONE

INTRODUCTION

1.1 Background

Quality management practices play a significant role in business success and achievement. Leaders of business organizations, especially service organizations, have started to change from seeking success through strategies and techniques to seeking a culture that creates and sustains success (Schein, 2010). Quality management practices (QMPs) also enhance competitive advantage and help to achieve organizational goals (Kafetzopoulos, Gotzamani, & Gkana, 2015). QMPs increase the quality of services and products, and lead to customer satisfaction and continuous improvement (Kim, Kumar, & Kumar, 2012).

Innovation performance is significant in developing a strong competitive advantage. Innovation has been described as an important element in sustaining organizational competitiveness (Büschgens, Bausch, & Balkin, 2013; Ettlie & Rosenthal, 2011; Stock & Zacharias, 2011). Innovation has become one of the main priorities of organizations to achieve their goals of financial revenue and customer satisfaction (Schniederjans & Schniederjans, 2015; Yusr, Othman, & Mokhtar, 2012). Innovation performance is an indicator of the overall performance of an organization. Thus, innovation drives the organization's functions to enhance its competitive advantage in the market (Schniederjans & Schniederjans, 2015). It is also an effective element linked to organizational strategies, culture, and goals (Hogan & Coote, 2014; Schein, 2010). From the perspective of the healthcare sector, innovation is the main motivator for enhancing

service quality and satisfying customers (Arshad & Su, 2015; Cheng & Krumwiede, 2012).

Implementing Quality Management practices leads to a quality culture that improves services and products, ensures continuous improvement, satisfies customers, and enhances competitive advantage (Peris-Ortiz, Álvarez-García, & Rueda-Armengot, 2015). Such practices enhance leadership efficiency, increase employee empowerment, increase employee involvement, support teamwork performance, and increase employee skills through continuous training (Rönnbäck & Witell, 2008). All these elements present the main aspects of a quality management culture.

The main cause of QM failure is the cultural position of the organization; if the QM application is not associated with the culture of the organization, then the effort of implementing QM will be useless (Dean & Evans, 1994). A quality culture is a plan of resources and behaviors that society accepts as the way to deal with problems. Organizations with a quality culture are determined as units that have vibrant ethics and support quality behavior. Therefore, the instruments of the organization should incorporate a quality culture. Kanji et al. (1997) mention that the important principles of QM positively influence a quality culture. Thus, examining the probable influence of a quality culture is recommended in many studies (Ahire et al., 1996).

Management leadership is crucial in QM implementation (Juran, 1988). Leadership plays a significant role in QMP function by supporting quality initiatives, empowering followers, involving employees in decision making, fostering the implementation of the QM process, providing the required resources to apply QM, providing adequate training

for employees, enhancing the effective use of quality information analysis, and ensuring the overall continuous improvement of an organization (Mustafa & Bon, 2012b). In the context of the Middle East, QM practices have been utilized and applied, and are a major concern for policy makers and strategists. Specifically in a Saudi context, QM has been used in the healthcare system of the Kingdom of Saudi Arabia (KSA) since 1993, and the outcomes of implementing QM have been affected by leadership decisions (Alharbi & Yusoff, 2012; Almalki, Fitzgerald, & Clark, 2011). For the purposes of this study, it is important to highlight the healthcare sector indicators in order to demonstrate the importance of the sector in KSA. The health sector in KSA has significantly increased during the last decade.

Figure 1.1 shows the statistics adopted from the Statistics Annual Book of the Ministry of Health (MOH, 2013). The figure illustrates that the budget allocated to health by the government increased from 5.5% of the whole government budget in 2009 to almost 7% in 2013.

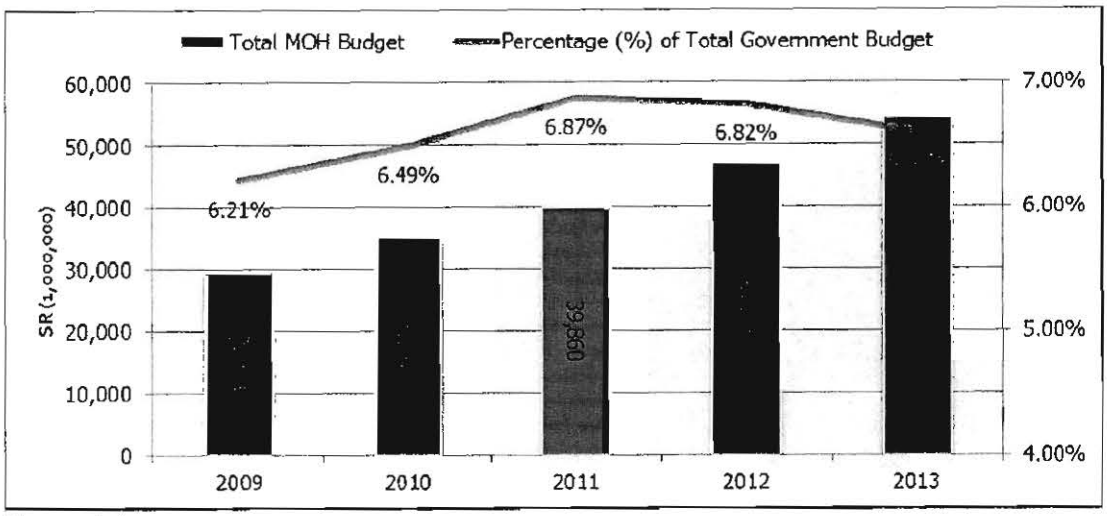

Figure 1.1
Budget appropriations for MOH in relation to the government budget in 2009–2013
Source: Statistics Annual Book, MOH, 2013

In addition to the indicators for the healthcare sector budget, Table 1.1 shows that the number of jobs posted by the MOH increased from 176,018 positions in 2009 to 216,122 positions in 2013. Furthermore, the total amount of manpower that worked in the different healthcare organizations and was hired by the MOH increased by 50.8% between 2009 and 2013.

Table 1.1
Jobs posted appropriation for MOH

Year	Number of Job posts
2009	176,018
2010	186,069
2011	197,672
2012	208,438
2013	216,122

Source: Statistics Annual Book, MOH, 2013

The Ministry of Health in Saudi Arabia has invested a huge amount of its budget in government hospitals. Their commitment to better healthcare policies and obligations for the common man can be seen in the above chart trends, which show that government

officials are keen to provide better healthcare facilities by increasing the budget every year. This trend also shows that every year the healthcare budget of Saudi Arabia has shown enormous growth, which supports the arguments about the focus and concentration of healthcare issues and challenges. Additionally, the Ministry of Health (MOH), represented by the Human Resources Agency, has announced the availability of 1,255 job vacancies, via the MOH's Self-Employment Programs, at some hospitals throughout the different regions of the country. These job vacancies are available in a number of health specialties, including resident dentists, pharmacists and non-physician specialists (Ministry of Health, 2013). However huge investment in infrastructure and human capital have not been translated into performance within hospitals in Saudi Arabia. The current studies have led to the conclusion that the performance of Saudi hospitals is questionable, especially the ability of hospital administrators to encourage innovation performance.

1.2 Problem statement

The healthcare sector has outlined tremendous developments and progress (Almalki et al., 2011; Cucciniello & Nasi, 2014), but the organizations within the sector are a little lacking, particularly in the area of innovation performance (Moreira, Maria, Gherman, & Sousa; Tuan & Venkatesh, 2010). With regard to Saudi Arabia, a considerable problem exists concerning managers and leaders' lack of skills that could have helped to address innovative performance (Al Othman & Sohaib, 2016). Therefore, it is important for people in authority to understand that there is a dire need to bring in procedures through which innovative ideas and practices can be developed and taken further towards implementation (Iqbal, 2011). Notably, evidence is available that outlines some of the

measures taken in this regard in some private healthcare hospitals to foster innovation. These hospitals are engaging their staff members in the decision making process, and incorporating innovative and creative strategies for recruitment and the application of work standards (MOH, 2013). However, there is still is a severe lack of positive innovation performance outcomes, despite of all such efforts in the healthcare sector of Saudi Arabia (Almalki et al., 2011) and across the entire business set up (Tuan & Venkatesh, 2010). With regard to innovation, an empirical survey report places Saudi Arabia as ranking 58th out of a list of 178 economies, which is not a very encouraging sign for such a resourceful economy (WIPO, 2016). This clearly indicates that innovation and its concerned practices have remained a little too low in Saudi Arabia.

Notably, the authorities in Saudi Arabia have underlined several prospects to help improve the quality and performance of healthcare businesses and entities in terms of their innovativeness and performance (Alaboudi, 2016). Regarding this, the authorities are focusing on improving management decisions, the quality of the focus, and action and service. Accordingly, they are emphasizing working with integrity and transparency. On a positive note, the government of Saudi Arabia is also working on improving teamwork, support systems, and the work ambience across its healthcare sector (Ministry of Health report, 2016). This is being done to boost and facilitate employees` innovative performance in the healthcare sector (MOH, 2013; Almalki et al., 2011). According to Almalki et al. (2011), a robust culture for innovation is essential to enhance performance and overcome business inefficiencies. There have unfortunately been very limited studies in this regard, which could potentially guide and educate an economy like Saudi Arabia

with regard to how the enhancement of management practices should be done to foster innovation performance, especially in the healthcare sector of the country.

Although many studies have proven that QMPs influence innovation performance, the findings are inconsistent because previous studies on the relationship between QMPs and innovation vary concerning identifying the set of practices that influences innovation. For instance, Long, Kowang, and Wan Ismail (2015) identified the QMPs of leadership, strategic planning, customer focus, process management, and people management. In addition, Fernandese, Lorenco, and Silva (2014) identified QMPs leadership, customer focus, continuous improvement, involvement and development of people's relationship with suppliers, measuring results, and product design. Moreover, Schniederjans and Schniederjans (2015) found that only soft quality practices (e.g., teamwork, employee involvement, employee empowerment, and training) have an impact on innovation. Thus, the current study will attempt to clarify which QMPs have been successful in enhancing innovative performance.

In addition, the findings from studies have revealed inconsistencies in using different types of innovative approaches. For example, Kim et al., (2012) used a detailed innovative typology consisting of incremental process innovation, radical process innovation, incremental product innovation, radical product innovation, and administrative innovation; whereas Abrunhosa and Moura (2008) examined only on technological innovation.

The relationship between QMPs and innovation in previous studies shows that the relationship has not been fully addressed by healthcare organizations. For instance,

Mustafa and Bon (2014) examined the relationship between total quality management (TQM) practices and innovation in all service organizations. Although QM has been applied in Saudi Arabian hospitals since 1993, shortcomings can still be found in the outcomes with regard to innovation performance (Almaliki et al., 2011). Therefore, studying innovation is one of the main ways of tackling the issue of innovation performance.

The QM system has been defined as a culture (Kanji & Yui, 1997, as cited in Mosadeghrad, 2013). Culture is one of the most important factors in the organizational process of a healthcare organization. Quality management systems (QMSs) should be consistent with the culture of the organization, especially in service organizations (Al-swidi & Mahmod, 2011; Juneja, Ahmad, & Kumar, 2011). Some scholars have asserted that culture is a QM practice (Talib, Rahman, & Qureshi, 2011). However, one of the common difficulties of QM implementation in healthcare organizations is creating and supporting organizational quality culture (Mosadeghrad, 2013). Therefore, creating and supporting a proper quality culture is one of the important indicators of successful QMSs, such as TQM implementation in the healthcare sector.

Quality culture and QMSs are an ideal strategic system that forms the organizational management system and organizational competitiveness, which is linked to the level of innovation (Büschgens et al., 2013). QMSs support the organizational management system through practices that create a strong quality culture. A quality culture directs the managerial decision making process toward effective innovation. In addition, QMSs and a quality culture create and support strong competitiveness through innovation and

creativity, particularly human innovation and creativity (Hernández, González, & Aquiahuatl, 2013). Therefore, quality culture plays an intervening role in the relationship between QM and innovation.

Organizations need to introduce new strategies to enhance innovation performance and increase competitive advantage, especially in healthcare organizations. Therefore, organizations need to recognize and understand the influence of innovative strategies on innovation performance (Rosing, Frese, & Bausch, 2011). They must pursue a competitive advantage and innovate by using proper methods and strategies (Chu, 2009).

Organizations have to seek a strong strategy to innovate and create a strong competitive advantage owing to the intensive competition generated by information technology. To create and maintain a competitive advantage, organizations have to adapt effective innovation strategies that create and support innovation. Naranjo-Valencia, Jiménez-Jiménez, and Sanz-Valle (2011) believe that an innovation strategy can link a broad culture with innovation. For instance, leaders in organizations that use QM and follow a radical innovation strategy should create a developmental culture to support a radical innovation strategy in their organizations (Büschgens et al., 2013).

Management leadership is crucial in QM implementation (Juran, 1988). Leadership plays a significant role in QMPs function by supporting quality initiatives; empowering followers; involving employees in decision making; fostering the QM implementation process; providing the required resources to apply QM; providing adequate training for employees; enhancing the effective use of quality information analysis, and ensuring the overall continuous improvement of the organization (Mustafa & Bon, 2012b).

Since 1993, hospitals have been using QMPs in Saudi Arabia; nevertheless, the results of QM have been heavily influenced by hospitals` leadership and their decisions (Almaliki et al., 2011).

The literature shows that leadership influences performance and employee innovative behavior more than any other aspect. Regarding this, studies can be found that outline how transformational leadership in particular is of more prominence, value and significance. Empirical evidence is available that suggests that transformational leadership enhances performance through inspirational influence, particularized consideration, and stimulation (Bass, 1985; Nemanich and Keller, 2007). Research studies have also indicated that transformational leadership makes employees learn more freely and develop competency skills to showcase innovative behavior at both organizational as well as individual levels (Bass, 1999; Bass *et al.*, 2003; Bass & Riggio, 2006). Notably, past studies have outlined transformational leadership as a direct as well as moderating component of several factors for predicting numerous individual and organizational outcomes, such as performance and job satisfaction (Jeong, Hsiao, Song, Kim, & Bae , 2016).

It is important to note that there is also evidence to suggest that at times transformational leadership may come up with varied results, particularly in connection to employee performance (Boerner, Eisenbeiss, & Griesser, 2007). On the other hand, there are studies that have found no relationship between transformational leadership and how it could possibly enhance innovation prospects (Jaussi & Dionne, 2003; Osborn & Marion, 2009; Wilson-Evered et al., 2001). Henceforth, the mixed and inconsistent results of

transformational leadership, and its influence on performance and innovation outcomes requires further studies (Pieterse et al., 2010). In addition, the direction of the correlation can be changed when there exists a moderator effect within a correlational framework. This statement supports the theory of Baron and Kenny (1986) regarding an interaction between a focal independent variable and a factor that specifies the appropriate conditions. Furthermore, if a relationship is substantially reduced instead of being reversed, it is also considered to have a moderator-interaction effect.

In addition, topics on QMPs and Innovation performance in the literature refer to the suggestion that organization should consider their transformational leadership. Several studies have associated innovation performance with transformational leadership (Long, Kowang, and Wan Ismail 2015 ; Feng, 2005). Transformational leadership is theoretically recognized as a potential moderating variable that can influence QMPs and the innovation performance relationship (Kim, Kumar & Kumar 2012; Schniederjans, & Schniederjans, 2015). Alharbi and Yusoff (2012), stress that QMPs seems to be incomplete without transformational leadership affecting the relationship. In line with these arguments, some studies have moderated the relationship by using the role of leadership (Hussain & Younis (2014); managerial leadership (Kim, Kumar & Kumar 2012), and brand contribution (Abdallah, 2013). However, the moderating role of transformational leadership concerning the innovation performance of hospitals, when combining these QMPs, remains unexplained in the existing literature. In line with the suggestions of Kirkman et al (2009) and Engelen et al (2015), it is expected that leadership moderates the relationship between QMPs and innovation performance in public hospitals in Saudi Arabia.

Additionally, according to Alharbi and Yusoff (2012), transformational leadership is supposed to work and influence major work prospects. The authors investigated transformational leadership in Saudi Arabian hospitals, and found that transformational leadership is significantly related to managerial processes and patient safety. Based on these findings, the authors recommend further investigation into the topic to see how transformational leadership can nourish other performance outcomes. Keeping these arguments in mind, the present study has attempted to discover how transformational leadership can be of value in boosting innovation performance across hospitals in Saudi Arabia.

Therefore, an examination and understanding of innovation performance constructs, specifically the moderating effect of transformation leadership and the mediating effect of quality culture and innovation strategy between QMPs and innovation performance, are critical; especially in a Saudi Arabia context as there is a contextual and theoretical gap in the body of knowledge. Therefore, this study is an attempt to help fill the gap by analyzing the relationship between QMPs, quality culture, innovation strategy and transformational leadership and its ultimate effect on innovation performance.

1.3 Research questions

From the context of the problem statement in the previous section, the research questions are as follows.

i. Do QMPs have an impact on innovation performance in healthcare organizations?

ii. Does a quality culture have a mediating role in the relationship between QMPs and innovation performance in healthcare organizations?

iii. Does innovation strategy have a mediating role in the relationship between QMPs and innovation performance in healthcare organizations?

iv. Does transformational leadership have a moderating role in the relationship between QMPs and innovation performance in healthcare organizations?

1.4 Objectives of the study

To address the research questions, the objectives of this study are as follows:

i. To examine the impact of QMPs (training and education, employee involvement, strategic quality planning, customer focus, information and analysis, continuous improvement, process management, and the role of the quality department) on innovation performance in hospitals in Saudi Arabia.

ii. To examine the mediating role of quality culture (personal influence/performance, management style, mission and goal orientation, teamwork orientation, and improvement orientation) between QMPs and innovation performance in hospitals in Saudi Arabia.

iii. To examine the mediating role of innovation strategy between QMPs and innovation performance in hospitals in Saudi Arabia.

iv. To examine the moderating role of transformational leadership between QMPs and innovation performance.

1.5 Scope of the study

This study addresses the innovation performance in the form of process innovation and service innovation in the context of the health sector in Saudi Arabia. The research framework of this study is based on the data collected from the directors of MOH hospitals healthcare services in different states of Saudi Arabia utilizing a quantitative cross-sectional approach. There are 268 public hospitals spread across all states in Saudi Arabia, and these hospitals form the unit of analysis. Of the 268 hospitals, 211 are general hospitals, whereas the rest are specialized hospitals.

The focus of the study is on the effect of QMPs, which dominate in service organizations and are used in healthcare organizations, on innovation performance. This includes the roles of the quality department, process management, continuous improvement, information and analysis, customer focus, strategic quality planning, employee involvement, and training and education. Moreover, this study has addressed the mediating roles of quality culture and innovation strategy in the relationship between QMPs and innovation performance in healthcare organizations in Saudi Arabia. The moderating role of transformational leadership has also been examined under the scope of this study.

1.6 Significance of study

The current study has examined the relationship between Quality Management Practices and innovation performance with innovation strategy, quality culture and

transformational leadership. Specifically, this study has examined the moderating relationship between transformational leadership and the mediating relationship of quality culture and innovation strategy between the QMPs and innovation performance.

1.6.1 Theoretical Significance of the study

This study is significant because it concerns the healthcare sector, which plays an important role in people's lives and is growing significantly in Saudi Arabia. The study provides views on the relationship among QMPs, quality culture, innovation strategy, transformational leadership, and innovation performance. Thus, a framework for this relationship has been developed for empirical testing and recommendation.

This study has attempted to clarify the inconsistencies that characterize the relationship between QMPs and innovation performance. This attempt has identified specific practices that may affect the performance of innovation. This identification should help managers and practitioners in healthcare organizations to practice QM and thus effectively foster innovation.

The significance of this study has also emerged from the use of an innovation strategy, quality culture and transformational leadership as some intervention variables within the same framework. This approach visualizes how a strategy mediates QMPs and innovation performance. The results of this approach are useful for managers in healthcare organizations and government authorities who are policy makers to help organizations align QMPs, innovation strategies, and transformational leadership, as well as subsequently increase innovation performance. This study has likewise joined the debate

on the relationship between QMPs, quality culture, innovation strategy, transformational leadership, and innovation performance.

The current study adds to the body of knowledge in the literature in terms of Crossan and Apaydin (2010) definition of innovation as the production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; the renewal and enlargement of products, services, and markets; the development of new methods of production, and the establishment of new management systems. Innovation is both a process and an outcome, and how this process and outcome is effected by the quality management practices is stills infancy. Additionally, the role of transformational leadership between quality management practices and job related outcomes has been explored; however, using transformational leadership with exogenous and endogenous variables has limited scope.

From a theoretical perspective, the study has significance to the theory of Resource Base View theory (RBV), which has been adapted to explain the relationship between the QMPs (exogenous) and innovation performance (exogenous) variables. RBV theory has been adapted for current study by explicitly explaining and utilizing the innovation strategy, quality culture, and contingency theory to explain the impact of the role of transformational leadership on the relationship between QMPs and innovation performance in the theoretical framework, as a moderated variable. This research approach will enable an examination of the innovation strategy, and how quality culture mediates the relationship between QMPs and innovation performance; including with a view to examine how transformational leadership moderates the relationship between

QMPs and innovation performance in the light of contingency theory. Additionally, the current study has extended the body of theoretical knowledge by exploring the impact of transformational leadership on employee innovation and creativity, which ultimately effects innovation performance. Additionally, this study provides a theoretical understanding by exploring and adding to the body of theoretical knowledge in the existing literature about quality management practices and innovation performance.

1.6.2 Practical Significance of the Study

The study is aimed at underlining the notable prospects for managerial authorities and top policy makers to understand the importance and unique role of QMPs regarding innovation performance. The present study has involved conducting empirical work to show how quality management practices can be of importance to boosting innovation performance. The results have also revealed that managers and people in authority within hospitals in Saudi Arabia need to improve and work on quality management practices to foster innovation and improve performance. The results will potentially help practitioners, managers and stakeholders in Saudi Arabia to enhance innovation.

Thus, this study has significance to the literature conducted on hospitals by providing views on the relationship among QMPs (information analysis, process management, training and education, teamwork, ttrategic planning, customer focus, the role of the quality department, and continuous improvement), quality culture, innovation strategy, transformational leadership, and innovation performance. The views have been illustrated throughout the findings described in the current study.

From a conceptual perspective, the study presents theoretical and empirical viewpoints. For example, the framework developed is based on the research findings. Moreover, the framework is open to theoretical and empirical verification and testing by other studies, especially those prospective studies in healthcare or in professional service organizations.

The findings can be applied across the healthcare sector to boost performance through transformational leadership practices. There have been assertions about transformational leadership, and the present study aims to address them through outlining its significance for economies like that of Saudi Arabia, similar to other developed economies. The research should also help scholars and practitioners to understand the notable role and influence of the predictor variables examined in the present study towards boosting innovation and performance.

1.7 Operational definitions

The operational definitions of exogenous and endogenous variables are as follows:

Training and education: According to Stanton et al (2010) recent evidence on training and development across the healthcare industry focus on achieving the maximum level of results. This is explained as "Employees training and education to get organization goals and objectives" (Wilson & Collier, 2000)

Employee involvement: Involving the employee in the QM process helps to improve performance (Thiagarajan & Zairi, 1997). Moreover, employee involvement practices should lead to the success of the QM system (Motwani, 2001), which is explained as:

"Employee involvement and empowerment in the quality planning efforts of the hospital" (Shortell et al. 1995& LeBrasseur et al. 2002).

Strategic quality planning: Strategic management and planning integrate areas of quality of management practices and the strategic alliance and analyses, as well as the strategic shift and strategic paradigm, are all related dimensions of quality management practices considered important for any organization; in a simple form this is explained as the "Development of the strategic objectives and action plan by the hospital" (Short ell et al. 1995).

Customer focus: In the view of Chiles and Choi (2000), focusing on customers and working on turbulent business environments can actively help enrich organizational learning. It should lead to focusing on customers' needs, desires and expectations, with employees becoming more familiar with the tactics required for a better service and satisfaction (Ruiz-Moreno *et al.*, 2005), which is explained as: "To what extent is the hospital able to effectively assess and meet customer requirements and expectations" (Short ell et al.,1995).

Information and analysis: Numerous studies have used quality information and analysis measurements and considered them as critical to competitiveness (Robert, 2001). Key studies on QMPs have examined information and analysis as the main QM factors, while some studies have used different names but the same concept (Saraph et al., 1989), for example, "To what extent scope, the management, and the use of data and information. It goes on to demonstrate how these factors are important to maintain customer focus,

quality excellence, and to improve operational and competitive performance" (Short ell et al., 1995).

Continuous improvement: The significance of continuous improvement has increased owing to the increase in customers' needs and expectations. Quirke (1995) asserts that the main challenges of an organization are gaining customer trust, ensuring customer retention, and developing sustainable relationships with customers. This is explained as "To what extent to which the hospital is able to pursue innovative improvements of its process and services" (Douglas & Fredendall 2004).

Process management: Accordingly, better process management helps individuals to improve management practices and make better decisions to connect people and organizations to strategic goals (Tasevska, Damij and Damij, 2014; Nadarajah et al., 2014). This is explained as: "The focus is on the methodological and behavioral practices, which shows that the management of process is more important than the results" (Douglas & Fredendall 2004).

Quality culture It is also argued that a common difficulty of QM implementation in healthcare organizations is creating and supporting culture (Mosadeghrad, 2013). Therefore, creating and supporting a relevant culture are important indicators of successful QMSs, such as TQM implementation in the healthcare sector, which is the reason that "Quality culture is referred to as an environment reflecting positive commitment to quality outcomes, products, systems, and processes; it stresses upon continuous improvement" (Jallow, 2007).

Innovation performance "The incremental approach results in achieving product conformance, rather than product innovation, and constrains the firm's ability to innovate. Continuous improvement inhibits break-through improvement (innovation) since it focuses on incremental change, necessitates standardization in order to establish control, stability, and routine, and prevents people from thinking of radical changes in the organization" (Sadikoglu & Zehir , 2010).

Innovation Strategy: Bhaskaran (2006) have defined innovation as strategic practices that involve change and risk taking. Innovation strategy includes the process and practices of developing and introducing new products, developing new sales, introducing new technology, and creating new managerial procedures (Damanpour, 1988; Davila, Epstein, & Shelton, 2006). This is explained as: "Formal planning is often regarded as limited to large enterprises and thus not transferable to the requirements of the fast-moving and flexibly structured" (Terziovski, 2010).

Transformational leadership Such leaders provide their associates with a sense of purpose that goes beyond a simple exchange of rewards for the effort made (Bass & Avolio, 1997, p. 11). It is defined as: "a process in which the leaders take actions to try to increase their associates' awareness of what is right and important, to raise their associates' motivational maturity and to move their associates to go beyond the associates' own self-interests for the good of the group, the organization, or society."

Role of the quality department To successfully apply TQM practices, quality department managers introduce and simplify the practices of QM for their followers, such as empowerment and involvement (Ramseook-Munhurrun, Munhurrun, & Panchoo,

2011; Singh & Sushil, 2013). Additionally, the quality department focuses on employee commitment, which helps managers and leaders to provide the necessary resources for TQM implementation (Ramseook-Munhurrun et al., 2011). To simplify, "The quality department needs quality staff for consultation and they must be granted visibility and autonomy" (Saraph et al.,1989).

1.8 Conclusion

This chapter has presented the justification for, and motivation behind, the current study. It has provided a problem statement based on a comprehensive literature review of QMPs, innovation strategy, quality culture, transformational leadership, and innovation performance, as well as identifying any gaps. The research questions have emerged from the context of the problem statement, and objectives have been listed to help answer the research questions. The scope has been explained based on the perspective of theoretical and geographical factors. The significance of this study has also been discussed and explained.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the relevant literature in this area. It starts with an overview of the healthcare sector in Saudi Arabia, and presents relevant statistical indicators. The chapter reviews the topics of QMPs that are relevant to the purposes of the current study, and then reviews quality culture issues related to this study. It also analyzes the topics on transformational leadership and their relationship with innovation performance. Finally, the chapter examines topics on innovation performance and innovation strategy.

2.2 Healthcare in the KSA

The healthcare sector in KSA has grown significantly over the past decade. The budget allocated to health services by the government increased from 5.5% of the whole government budget in 2009 to almost 7% in 2013. The percentage of the total number of Saudi professional workers in different healthcare organizations and hired by the MOH increased from almost 57% of the total manpower in healthcare organizations in 2009, to almost 61% in 2013. In particular, the total number of Saudi professional workers in the healthcare sector significantly increased from 66,745 in 2009 to 106,387 in 2013, and the total number of non-Saudi professional workers in the healthcare sector increased from 56,398 in 2009 to 68,494 in 2013 (MOH, 2013).

Hospitals are the main area of the healthcare sector. The healthcare sector is one of the most important sectors in all countries. Hospitals around the world strive to provide high-quality and innovative services to customers (Jacobs et al., 2013; Rocha, Marziale, Carvalho, Id, & Campos, 2014). To survive, hospitals have to satisfy customer needs by providing high-quality services (Jacobs et al., 2013). Customer satisfaction levels, especially in hospitals, are measured according to the degree of quality of the services provided. Various elements are important in order for healthcare organizations to be successful in providing high-quality services that satisfy customers, such as organizational structure and culture (Bass & Avolio, 1999). Hospitals are being challenged by the increasing cost of medical technology, equipment, and installation. Moreover, customers have a developing consciousness about obtaining high-quality services (Jacobs et al., 2013). Thus, offering affordable or free services may sometimes not be feasible for healthcare providers. Such elements have led to the challenges that hospitals face in Saudi Arabia today.

Table 2.1 shows that the population size of Saudi Arabia is 29,994,272, all of whom are potential customers for healthcare services in the country's hospitals. The population age under 15 years old is 30.8% of the total number, which indicates that pediatric healthcare services are highly needed, and that most healthcare organizations have to establish departments for pediatric healthcare services.

Table 2.1
Demographic indicators, KSA, 2013

Indicators	Number/percentage
Total estimated population size	29,994,272
Crude birth rate per 1,000 population	22
Annual population growth rate (%)	
Saudi	2.7
Non-Saudi	2.15
Percentage of population under 5 years (%)	10.8
Percentage of population under 15 years (%)	30.8
Percentage of population 15–64 years (%)	66.2
Percentage of population 65 years and above (%)	3
Total fertility rate	2.81
Life expectancy at birth	
Total	75
Male	72.9
Female	75.4

Table 2.2 shows that Riyadh has the highest population (7,516,959) and most hospitals beds (7,937), followed by Jeddah and Makkah. The three regions have a total population size of 13,679,738 from the total population size of 29,994,272 of Saudi Arabia (45.6% of the total population). The three regions use 13,452 (34.5%) of the 38,970 hospitals beds in Saudi Arabia (Ministry of Health's Statistics Annual Book, 2013).

Table 2.2
Rate of MOH hospital beds per 10,000 population by region, KSA, 2013

Region	Population	Hospital beds	Bed rate per 10,000 population
Riyadh	7,516,959	7,937	10.6
Makkah	2,054,623	2,522	12.3
Jeddah	4,108,156	2993	7.3
Ta`if	1,228,314	2,415	19.7
Medinah	1,962,558	2768	14.1
Qaseem	1,337,563	2664	19.9
Eastern	2,941,236	3,056	10.4
Al-Ahsa	1,165,422	1,555	13.3
Hafr Al-Baten	427,183	1,000	23.4
Aseer	1,725,054	2,400	13.9
Bishah	370,800	770	20.8
Tabouk	866,803	1,250	13.5
Ha`il	654,736	1,025	17.2
Northern	350,972	1,010	28.8
Jazan	1,497,377	1,850	12.4
Najran	555,129	1,100	19.8
Al-Bahah	450,733	1,085	24.1
Al-Jouf	321,388	860	26.8
Qurayyat	161,750	490	30.3
Qunfudah	297,516	200	6.7
Total	29,994,272	38,970	13.0

In conclusion, the health sector is regarded as one of the most important sectors in any country due to providing health services to citizens. It seems that the Saudi Arabian government has been paying attention to the health sector by allocating a high budget to health services and hiring qualified manpower. However, there are challenges, including providing high quality services, adopting innovative strategies, and improving the leadership of health sector organizations. This indicates that studying the effect of QMPs, innovation strategy, quality culture and transformational leadership is of great value to both practitioners and academics alike.

Healthcare organizations in Saudi Arabia are categorized into three types: Ministry of Health (MOH) hospitals, Military hospitals and Private hospitals (MOH, 2013). MOH hospitals represent almost 58% of all hospitals in Saudi Arabia. Altogether, the hospitals provide healthcare services for Saudi people, residents, military employees and their dependents.

The health sector in Saudi Arabia has been growing significantly. The Government of Saudi Arabia has stated that it has been investing heavily in developing a good infrastructure for healthcare in all cites (Almalki, Fitzgerald, & Clark, 2011). The apportioned budget for the health sector from the main government budget increased from 5.5% in the previous years to 7% in 2013. The portion of Saudi professional manpower employed in the sector by the MOH has increased to almost 61% of the total manpower employed in the healthcare sector in 2013. The total number of Saudi professionals increased to 106,387 in 2013, compared to the number of non-Saudi professionals working in healthcare, which was 68,494 in 2013 (MOH, 2013).

As shown in Table 2, the population in Saudi Arabia is almost 30,000,000. Riyadh region is the highest (7,516,959) and has the most hospitals allocated per person (7,937). That is followed by the Jeddah area, and then the Makkah area. These three administrative areas comprise, altogether, about 13,679,738 million of the total number (45.6% of the population). The three areas altogether use 13,452 of hospital allocated unit per person (this is 34.5%) of the total number of units (Ministry of Health's Statistics annual Book, 2013).

A comprehensive healthcare system usually includes curative, preventive and rehabilitative services, and in Saudi Arabia these services are in accordance with Islamic ethics. As mentioned in the MOH's Mission Statement "it is for the benefit of patients and their families, as well as the community". This can be implemented through cultivating public awareness of health, and ensuring ethical conduct with regard to the distribution of healthcare services throughout Saudi Arabia. In addition, efforts can be made to enhance the knowledge and skills of MOH employees through ongoing training on work efficacy. Enhancing skills and knowledge should improve employees' commitment and develop proper behavior within healthcare organizations (Mosadeghrad, 2013).

2.3 Implementing QM in Saudi Healthcare

There has been a lack of research regarding the evaluation of QM within the healthcare sectors of Saudi Arabia. However, Al-Qahtani and Ibn-Methheb (1999) have assessed how QM has been implemented in the Saudi public sector, including hospitals. This research attempted to search and evaluate an understanding of QM in the public sector in Saudi Arabia; how QM is observed and applied as a model, and study the factors of QM in the public sector. Their findings also suggest solutions to some of the difficulties mentioned earlier, which cab prevent the successful implementation of QM.

Al-Qahtani and Ibn-Methheb (1999) explain that the MOH promotes quality assurance in the healthcare sector, and they use this as the rationale for introducing QM in the sector. However, although QM was adopted in 1990 by the MOH, researchers have found only partial outcomes on the result and effect of QM, especially in hospitals as a unit of

application. The MOH has formed its own QM system and standards of evaluation, although these are based on the existing theoretical QM literature.

These findings show that the MOH has organized various forms of training for QM in different healthcare organizations, and this training has been applied by both Saudi and non-Saudi employees. However, middle management was the main target of the training. Although it was claimed that top management is dedicated to the QM programme, their appreciation and awareness of the QM application and concept was significantly less. The MOH's implementation of QM shows some shortages and some weaknesses, such as its mission, vision and lack of clear objectives. Therefore, QM needs to be more effective and should have greater influence, transcending deeper to other performance related outcomes such as innovation and innovation performance within healthcare in Saudi Arabia (Alotaibi et al., 2015).

As a result of government efforts to increase the quality of in healthcare in audi Arabia, access to healthcare services has improved significantly over the past three decades. However, this enhancement in access has presented challenges to the healthcare system and hospitals, their employees, and other stakeholders, and has emphasized the need to improve the quality of healthcare services (Aljuaid, Mannan, Chaudhry, Rawaf, & Majeed, 2016). These challenges are: growing demand for healthcare services leading to increased costs, altering patterns of disease, a shortage of healthcare staff and professionals, an increase in medical inaccuracies, and long waiting times.

A key policy being developed and implemented with regards to healthcare services, concerns addressing the need to adopt quality methods to improve quality of service, and

applying quality management across all healthcare organizations; this is to ensure that proper levels of quality are reached. The plan relies on the measurement of customer satisfaction as a central to factor for quality improvement and achieving high quality delivery of healthcare services (Aljuaid et al., 2016). In addition to customer satisfaction, it is imperative to consider accessing healthcare services as a fundamental quality of care service indicator.

The critical appraisal of the literature has highlighted that healthcare delivery in the area of QMPs is important in hospitals, and hence it can be seen to be important in Saudi Arabian hospitals as well. The most current studies have outlined how QMPs practices are important and should be seen as a key aspect of efficiency regarding hospital performance (Doyle, Lennox & Bell, 2013). In accordance with that, a study by Hussain (2014) on Saudi Arabian hospitals has shown that there is a significant impact from QMPs, and the study concludes its findings based on administrators and employees' perceptions, which revealed significant differences between employees and physicians. Hence, considering the background of Saudi Arabian hospitals, this variation could be due to the fact that leadership has failed to foster the appropriate culture, which is essential to better management and establishing performance outcomes across hospitals. In addition, El-Jardali et al (2014), in their empirical study, conclude that QMPs hindrances are commonly affecting hospital performance. Furthermore, they conclude that, most notably, major developments pertaining to QMPs and its influence on performance amongst nurses is very low compared to other research findings on QMPs around the world. However, a study conducted by Al Awa et al. (2011), reported that

performance can be considerably enhanced through QMPs, particularly in the healthcare sector of Saudi Arabian hospitals.

2.4 Evolution of quality management

QM plays a significant role in the development of all types of organizations: non-profit, profit, private, and public. QM was initially introduced to the industrial sector of the US and Japan by well-known scholars such as Crosby (1979), Feigenbaum (1986), Ishikawa (1976), and Deming (1986), who have provided different definitions that summarize the concept of quality, with a focus on the principles of customer satisfaction and continuous improvement (Teh, Yong, Arumugam, & Ooi, 2009). Some scholars have defined QM as a holistic organizational strategy and a systematic approach that continuously improves processes, products, and services; while other scholars have also focused on continuous improvement. Thus, QMPs are implemented to enhance productivity, improve the quality of products and services, decrease costs, and increase competitiveness and market share (Kaynak, 2003).

QM development has gone through many historical stages, as follows:

Inspection stage: Quality inspection is used to guarantee product reliability.

Quality control stage: The use of quality statistical tools and process control tools is dominant.

Quality assurance stage: Quality is conceptualized from a new perspective, which mostly focuses on the managerial function in organizations.

Strategic QM stage: The significant roles of leadership and strategic planning are emphasized to enhance product quality and raise revenue (Ohmer, 1997).

The term TQM is used in the main QM approach. TQM began when Japanese scientists gathered to improve the productivity of their manufacturing processes (Powell, 1995). They developed their methods based on Deming's quality concept. Therefore, the Japanese became a strong competitor of the United States. TQM was utilized in the United States in the 1990s (Hill, 2008).

Many experts have developed TQM further, such as Crosby (1979), Ishikawa (1985), Deming (1986), Feigenbaum (1986), and Juran (1988). Deming and Juran imported TQM from Japan to the United States. Crosby introduced the concept of zero defects to compete against the concept of inspection tools (Ohmer, 1997), and Crosby asserted that QM is used based on scientific education. Feigenbaum recommended the concept of achieving production and process excellence by implementing TQM. Feigenbaum focused on creating a strong commitment among employees to increase performance. Juran introduced three elements of quality philosophy: plan, control, and improve. Juran also introduced the 80:20 rule of Pareto. Numerous forms of international standards and awards have been developed based on TQM. For instance, the Australian Quality Award, the Malcolm Aldridge National Quality Award (MBNQA), the Japanese Deming Prize, and the European Quality Award (Hill 2008).

According to Bon and Mustafa (2013), the evolution of TQM focused on manufacturing and production industries, more so than service industries, in the past. However, the high level of competition and the increase in service industry share increased the need for

TQM in services firms (Juneja, et al., 2011). QM has been recognized as an important management intervention that many studies have implemented in the manufacturing, service and public sector. For example, Sadikoglu and Olcay (2014) carried out an empirical study that aimed at investigating the impact of TQM practices on different organization performance measures in Turkey. Based on 242 samples collected from the manufacturing and service sectors, the findings show that different TQM practices affect different organizational performance measures. They suggest that synergy among the TQM practices results in superior improvements in the organization's performance.

Another study conducted by Perdomo-Ortiz, Gonzalez-Benito and Galende (2006) in Spain, reports on the significant role of TQM in the industrial sector and the impact on innovation capability. Long et al. (2015) also studied the effect of QMPs on innovation performance and capability in a manufacturing study in Malaysia. The results show that TQM practices of leadership, strategic planning, customer focus, process management, and people management have an impact on innovation capability.

In the service sector, Raja and Wei (2014) explain the relationship between innovation, quality practices and firm performance among service sector firms in Pakistan. The study discusses various types of innovation practices in the service sector. QMPs have also been studied in the healthcare system of Saudi Arabia, including investigating their impact on different organizational measures (Alharbi & Yusoff, 2012; Almalki et al., 2011). However, few studies, if any, have been carried out on the link between QM and innovation performance in the context of the health sector in general, and in Saudi

Arabia, this is even fewer. This shows the urgent need to examine the aforementioned relationship to fill this gap.

2.5 Definition of TQM

Nowadays, quality is regarded as a key concept for success, survival and competitive advantage in the global market. Deming (1986) defines quality as "satisfying customer beyond expectations". In Deming's approach, satisfying the customer is the main focus of quality, while Juran (1988) views quality as "fitness for use". Juran signifies the tight connection between quality and actual use of services and products. Another definition introduced by Crosby (1979), defines quality as "conformance to requirements and quality is free". According to Crosby's approach, improving the attitudes and behaviors of employees is critical. He also introduced the concept of "zero defect", referring to defect prevention.

Feigenbaum (1983) defines quality as the total composite product and service characteristics of the organization to meet customer expectations. Based on this approach, the quality is dynamic, as the needs and expectations of customers are constantly changing. The customers' needs should be translated into the product and services specifications. The role of marketing is also emphasized and it is believed that what the customer says is right. Ishikawa (1985) defines quality as: "quality does not mean the quality of the product only, but also of the quality of management or the reputation of the company". Ishikawa's approach focuses on the quality of services, products, management and the improvement of the firm.

Flynn, Schroeder, and Sakakibara (1994) define TQM as a combination of perspectives used to improve processes to satisfy customers. Dean and Bowen (1994) define TQM as a managerial process involving principles and practices that guide customer relations, managerial processes, education and training, and supplier management. Kaynak (2003) describes TQM as a holistic management philosophy that improves processes and quality to satisfy customer needs. All definitions are oriented toward customer satisfaction, continuous improvement, people management, quality tools, and supplier management (Sila & Ebrahimpour, 2003).

2.6 Quality management practices

QMPs are delineated from the main principles of QM, as asserted by experts on quality, such as Deming. The main principles in the earlier frameworks of QM consisted of continuous improvement, customer focus, and people management (Kanji, 1990). Throughout the historical development of QMPs, various practices have been added based on different theoretical and empirical results. For instance, the role of quality department practices was added by Saraph, Benson, and Schroeder (1989).

The influence of quality scholars, such as Crosby (1979), Deming (1986), Juran (1988), Feigenbaum (1986), Taguchi (1986), and Ishikawa (1985), has helped to define QM principles and practices, although many frameworks exist. Therefore, organizations adopt QM according to their activities and goals. For instance, the zero-defect framework by Crosby (1979) emphasizes prevention and opposes inspection methods. The framework asserts an in-depth understanding of quality standards, which must be practiced by managers to increase commitment. It also focuses on the role of management leadership

in leading successful QM initiatives through employee participation. Thus, on the basis of Crosby's framework, quality is a continuous improvement process.

Deming (1986) is among the experts with the most contributions to the development of QM. He focuses on the use of statistical techniques, such as quality control tools, to sustain quality processes for the standards of production. He also emphasizes the role of management support in quality implementation and the creation of active surroundings for quality standards. Additionally, he supports employee contributions as the main factor for quality success. Juran (1980) mentions that managers should show high communication levels and enhance quality training to implement successful QM initiatives.

The Ishikawa (1985) model focuses on the importance of quality training by developing quality knowledge. He explains the use of the cause-and-effect technique to improve quality performance. Employee involvement and training on processes may lead to successful quality implementation. Similar to Ishikawa, Feigenbaum (1986) argues that customer satisfaction is the main goal of QM, and that all business activities should target improving customer satisfaction. Moreover, he lists four stages of quality control: standard setting, standard conformation, action correction, and improvement planning. Thus, Feigenbaum's concept of quality is based on a good level of quality training, competencies, and knowledge of managers and employees.

Despite the differences in quality framework approaches, similar main elements for success have been agreed upon. For example, management leadership commitment, training on quality, and employee involvement, are the main factors in implementing

successful quality initiatives. Thus, organizations have to employ a QM approach based on their culture, structure and environment (Yasin et al 2004). Furthermore, many applicable frameworks consisting of the critical success factors of QMPs have been examined and introduced by scholars based on empirical studies (Saraph et al., 1989; Black & Porter, 1996; Kaynak, 2003).

For the purpose of this study, eight QMPs, namely the roles of quality department, process management, continuous improvement, information and analysis, customer focus, strategic quality planning, employee involvement, and training and education have been applied in Saudi Arabian hospitals; these practices have been used and examined in Malaysian hospitals (AbdManaf, 2009). Moreover, the practices are based on the main QMPs framework of Deming and are proven to have an impact on hospital management functions. More importantly, they have been validated and examined in the context of the healthcare sector in Saudi by Alharbi and Yusoff (2012). Moreover, the QMPs proposed by the study are proven to have an impact on the different functions of hospitals. Table 2.3 shows some examples of the most pioneering and common frameworks of QMPs.

Table 2.3
Main studies on the frameworks of QMPs

QMPs	Study
Role of quality department	Ahire et al. (1996), Agus (2005), Black and Porter (1995), Flynn et al. (1994), Powell (1995), and Saraph et al. (1989)
Process management	Black and Porter (1996), Ahire et al. (1996), Flynn et al. (1994), and Saraph et al. (1989)
Continuous Improvement	Black and Porter (1995), Sila and Ebrahimpour (2005), Flynn et al. (1994)
Information and analysis	Ahire et al. (1996), Black and Porter (1996), Flynn et al. (1994), Powell (1995), Saraph et al. (1989), Sila and Ebrahimpour (2005), and Prajogo (2005)
Customer focus	Agus (2005), Flynn et al. (1994), Sila and Ebrahimpour (2005), and Samson and Terziovski (1999)
Strategic planning	Black and Porter (1996), Samson and Terziovski (1999), and Sila and Ebrahimpour (2005)
Employee involvement	Saraph et al. (1989), Black and Porter (1996), and Sila and Ebrahimpour (2005)
Education and training	Flynn et al. (1994), Saraph et al. (1989), and Ahire et al. (1996)

2.6.1 Role of the quality department

The implementation of a QM system is usually introduced by the management, and the quality department takes responsibility for applying quality management practices. Thus, managers of quality departments need to understand QMPs, because the idea of QMPs is to change the management methods based on commitment (Yusuf, Gunasekaran, & Dan, 2007), in that quality department managers introduce and simplify the practices of QM for their followers, such as empowerment and involvement (Ramseook-Munhurrun,

Munhurrun, & Panchoo, 2011; Singh & Sushil, 2013). Additionally, the quality department should focus on employee commitment, which helps managers and leaders provide the necessary resources for TQM implementation (Ramseook-Munhurrun et al., 2011). The QMPs may be financial, moral, or managerial, such as when leaders motivate and encourage their followers towards TQM. Thus, quality department and employee commitment is the foundation of a successful TQM system that produces output by exceeding expectations and enhancing performance (Ahire et al., 1996; Huq & Stolen, 1998; Jitpaiboon & Rao, 2007). For the current study, the role of management in the form of the quality department is used as one of the QMPs as it has a specific role in quality practices within organizations.

In the study of the set of QM Practices, the role of the quality department has its own importance, such as the original set of practices proposed by Saraph et al. (1989). Additionally, they claimed that the role of the quality department may be improved through visibility, autonomy, consultation, and ensuring coordination with the quality department. On the other hand, it acts as a bridge between departments through effective coordination. The literature review shows that many organizations do not have a separate department for quality (Kaynak, 2003). Although from the aspect of the role of the quality department and innovation performance, there is no significant and direct relationship; rather, the role of the quality department has a significant direct and indirect relationship via process management on innovation performance. Innovation performance is indirectly as a result of the quality department. Similarly, innovation is indirectly related to quality department reporting, although it is not directly connected to innovation.

2.6.2 Process management

Process management practices are included and mentioned in most of the earlier main frameworks of QM, such as those of Ahire et al. (1996), Flynn et al. (1994), and Saraph et al. (1989). In addition, process management practices are included in the framework of quality and business excellence awards, such as the MBNQA. The MBNQA includes the process management of production, the delivery of products, and the process management of business and administrative procedures. Juran (1988) states, "*Business process is the logical organization of people, materials, energy, equipment, and information into work activities designed to produce a required end result.*" Process management mainly aims to improve the process of producing and delivering products and services (Powell, 1995). Thus, the process management of QM has a remarkable impact on the implementation of QMSs and their outcomes (Rönnbäck & Witell, 2008). The degree of process management success can be measured using three measurements: adaptability, efficiency, and effectiveness (Juran, 1988).

Enterprises have noticed that shifting their financial orientation can enhance decision making and performance through focusing on process management (Silva et al., 2012; Sanchez-Ruiz et al., 2016). The core feature of a process oriented organizational structure is that it facilitates better decision making and process management (Nadarajah et al., 2014). Therefore, enterprises can actively drive their core business processes and thus work on major weaknesses through better process management. Accordingly, better process management helps individuals to improve management practices and make better decisions to connect people and organizations with strategic goals (Damij and Damij, 2014; Nadarajah et al., 2014). Nevertheless, as the concept of process management and

related practices are mainly new, there is a need for research to investigate them further and discover generalizable implications. Likewise, Neubauer (2009), in their study of several enterprises, found that process orientation in a business can help enhance and enrich overall management practices.

Previous studies have suggested that there is a positive and significant relationship between the quality management practices of process management and innovation performance. A study conducted by Perez-Arostegui and Sousa (2013), concludes that process management directly influences the innovation performance of employees of Portuguese companies. Additionally Sadikoglu and Zehir (2010) obtained results consistent with previous findings, which also endorse that process management works in parallel with innovation performance. Kim, Kumar and Kumar's (2012) study also stresses that process management directly and indirectly effects the innovation performance of employees.

2.6.3 Continuous improvement

Continuous improvement is needed in the routine of an organizational process. Prajogo and Sohal (2001) argue that continuous improvement practices have their origin in the practices of process management leading to improvement and innovation. Continuous improvement includes the methodical focus on product and service, quality teams, attainment, and improving standards. Moreover, the significance of continuous improvement has increased due to the increase in customers' needs and expectations. Quirke (1995) asserts that the main challenges of an organization are gaining customers'

trust, ensuring customer retention, and developing sustainable relationships with customers.

Thus, there is a need for a continuous improvement process in order to outline potential weaknesses and work towards better organizational performance (Anand et al., 2009). According to Berger (1997), process management facilitates focusing on every inch of the business to outline even minor areas that could be considerably enhanced and improved through actively engaging people. Therefore, innovation is a key component in all aspects of strategic focus (Bessant et al., 2001) and towards the attainment of long term goals, simultaneously (Audretsch et al., 2011), to ensure continuous improvement. For the purposes of fostering a healthy business environment that flourishes from continuous improvement principles, enterprises need to understand the importance of participation, encouragement, inclusivity and motivation (Bessant et al., 1994), as only then can organizations transform and uplift themselves from mechanical to organic structures that support ongoing change and development (Lindberg & Berger, 1997; Fryer et al., 2007; Verona & Ravasi, 2003). Continuous improvement and the attainment of a suitable work and/or business environment requires a shift and developments in management behaviors, as well as confidence in employees, to improve ongoing functions (Bhuiyan & Baghel, 2005; Gallagher et al., 1997).

However, the studies related to quality management practices and innovation performance are scarce in the literature, and few of studies have examined the relationship between continuous improvement and innovation performance variables. Sadikoglu and Zehir (2010) highlight how continuous improvement practices in an

organization, in the form of training and development, help to increase employee motivation towards innovative new products and services for the organization. Additionally, their study claims that continuous improvement effects innovation performance.

2.6.4 Information and analysis

Information and analysis practices are related to the evaluation of strategies, quality appraisal, quality costs, performance assessment, and HR performance appraisal. Quality techniques, such as benchmarking, may fail if the information collected and produced is poor. Therefore, organizations should make sure that customer survey results are analyzed and used properly in decision making to sustain a consumer orientation (Metri, 2005). Numerous studies have used quality information and analysis measurement and consider them to be critical to competitiveness (Robert, 2001). Key studies on QMPs have examined information and analysis as the main QM factors, while some studies have used different names but the same concept (Saraph et al., 1989).

In the arena of system performance, Wilson and Collier (2000) have underlined information and analysis as the key components, and they have also underlined the significance of process management for predicting customer satisfaction. The main empirical studies in the area have found a significant correlation between quality management practices and business outcomes (Flynn & Saladin, 2001; Jayamahaetal., 2008; Prajogo & McDermott, 2005; Sila & Ebraimpour, 2005). Sila and Ebraimpour (2005) emphasize that quality management practices can help in making better informed decisions and creating an environment that helps businesses to discover any major faults

to improve their practices and ensure the effective achievement of organizational goals. Likewise, these studies have also found that information and analysis and leadership styles have a significant value and importance when it comes to enhancing business outcomes. Thus, the prior scholarly evidence suggests that there is a dire need to understand and outline the importance and practicality of quality frameworks and practices for enhanced performance. These evidences suggest that a variety of different aspects can be of value for enhancing outcomes, and some of the most prominent studies have reported knowledge and information to be the most importance elements in this regard (Flynn & Saladin, 2001; Jayamahaetal., 2008; Sila and Ebraimpour, 2005). Nonetheless, there is a need for further investigation and study to see how this impacts and influences the broader spectrums and business outcomes at large.

Perez-Arostegui and Sousa, (2013) claim that information and analysis has a positive and significant effect on innovation performance. In the same vein, this may explain why if the right information and analysis is carried out, this enhances employees' ability to innovate products and services for the organization. The same arguments and assumptions have been put forward by Sadikoglu and Zehir, (2010), who endorse the findings of previous researchers in that quality management practices, and specifically information and analysis, effect the extent of employees' innovation behavior, and they found a positive relationship between the two variables.

2.6.5 Customer focus

Customers are the focust of trading activities. Deming (1986) recommends that a management system should achieve a culture of continuous improvement in order to

determine whether customers' needs are being satisfied. Other researchers claim that focusing on customers' needs is the main principle of QM (Crosby, 1979; Kanji, 1990; Rao, Solis, & Raghunathan, 1999). Focusing on customer satisfaction is linked to successful market-breakthrough innovations (Rao et al., 1999). Ross (1995) asserts that many excellence indicators, such as quality culture, leader commitment, and continual training and improvement, are drawn from customer focus practices. Given that quality of service and product is confirmed by the customers' opinions, organizations should therefore aim for a customer focus.

In the view of Chiles and Choi (2000), focusing on customers and working on turbulent business environments can actively help to enrich organizational learning. This is because with a detailed focus on customers' needs, desires and expectations, employees can familiarize themselves with the tactics necessary for better service and satisfaction (Ruiz-Moreno *et al.*, 2005). Accordingly, engaging and effectively managing turbulent business environments can help enterprises and their employees to learn how to make the most of available prospects and improve results. It is important to note that a study conducted in the American automobile industry found that focusing on customers is the most crucial component for handling and managing total quality. The study also found and reports that obtaining information from customers through surveys can be very fruitful to gain an insight into their preferences and expectations. Such information can also help in refining and improving the product and service line. In parallel, a study in the Indian automobile industry concludes that strategic planning is very important to enhance business growth and improve organizational performance (Khanna et al., 2004). On the contrary, a study

by Lee et al. (2011) found no significant correlation between strategic planning and customer focus concerning the impact on business performance prospects.

Although customer focus and customer concentration management practices can be found in the extended literature from the past, studies related to customer focus and innovation performance have been paid less attention (Prajogo & Sohal ,2004). In the scarce literature, a limited number of studies highlight the issues of innovation performance from the angle of the customer's perspective. A study conducted by the Arostegui and Sousa (2013) recommends that quality management practices with a customer focus are required for an organization to meet the changes in market segmentation and environment. They conclude that a customer focus is a necessary element which needs to be incorporated into the organization's goals and performance, as they observed a positive and significant relationship between the variables. This argument has been endorsed by Sadikoglu and Zehir (2010) and Kim, Kumar and Kumar, (2012), who describe customer relations and innovation performance and found a significant link between them.

2.6.6 Strategic management

Strategic management and planning practices are included in the main framework of the theoretical and empirical studies on QM (Kaynak, 2003; Ooi, Lin, Tan, & Chong, 2011). Strategic planning identifies the long-term goals of the organization and sets out systematic plans to achieve them (Juran, 1988). Scholars argue that a QMS approach should be adopted and used as a strategic management system (Prajogo & Sohal, 2001). Strategic management of quality is driven by customer focus and the goal of satisfying

customers' needs (Juran, 1988; Samson & Terziovski, 1999). It further mandates that organizations and stakeholders should improve their strategic initiatives so as to better serve customers with higher quality products or services (Araujo and Sampaio, 2014).

Various disciplines have outlined the serious benefits and implications from performance and competitive positioning at the organizational level (Heisig, 2009; Pillania, 2009; Yiu et al., 2013; Serenko and Bontis, 2009). In addition, studies have also outlined some of the major implications of strategic management in the industrial sector (Andersen & Bettis, 2015; Andersen, Denrell, and Bettis, 2007; Bowman, 1980; Bromiley, 1991; Henkel, 2009; Miller & Leiblein, 1996; Wiggins and Ruefli, 2002).

Strategic management and planning is an integral part of quality of management practices. The strategic depth, alliance and strategic analysis, strategic shift and strategic paradigm, are all dimensions related to quality management practices, and are considered important for any organization. Studies have found a consistent relationship between strategic management and innovation (Feng et al. 2006; Hoang et al. 2006; Prajogo & Hong, 2008; Sila & Ebrahimpour 2005). However, studies related to strategic management and innovation performance are scarce. Arostegui and Sousa, (2013) found a positive relationship between strategic planning and innovation performance.

2.6.7 Employee involvement

Practices of employee involvement consist of employee participation and contribution towards the process. Participation allows employees to solve problems using their acquired quality information and knowledge (Vouzas & Psychogios, 2007). Involving the employee in the QM process encourages creativity (Thiagarajan & Zairi, 1997).

Moreover, involvement practices lead to the success of the QM system (Motwani, 2001). Numerous studies have proven the positive impact of involvement practices on the results of TQM implementation (Talib et al., 2011). It is also claimed that employees should be encouraged to be independent, creative and have the right to make decisions (Mustafa & Bon, 2012a), as this helps them to be innovative (Singh & Sushil, 2013).

Prior scholarly work pertaining to organizational performance has indicated the prominent role of business strategies in fostering employee motivation; enhancing products and services; reducing costs and employee turnover, and furthering work operations (Boxall & Macky, 2014; Lawler et al 1995). However, the role and importance of prominent HR practices with regard to employee involvement still requires further investigation (e.g. Boxall and Macky 2014; Schreurs et al 2013; Wallace et al 2013). Since the level of employee involvement is essential to enhance performance, there is a need to understand that people skills are important for strategic business performance.

Employee involvement in the process of organizational values and beliefs has always been an important agenda within any management practices. In the background of quality management practices, employee involvement has been considered a necessary and important element of practice. Some studies have focused on the relationship between the employee involvement and innovation and performance and found positive and significant results (Prajogo & Sohal, 2004; Mazzanti et al., 2006; Feng et al., 2006).

2.6.8 Training and Education

Employee training and education practices are important in the implementation of QM. Training practices are important because knowledge of quality may not be acquired

without sufficient quality training and education (Talib et al., 2011). Education and training practices are important to the success of TQM. Education and training practices are also important because they help employees to understand the process of QM in developing new products, increasing employee commitment, increasing competencies and abilities, and enabling employee creativity.

Regarding this, training and development is an important feature, to help facilitate skills and knowledge paradigms amongst employees (Franco, Bennett, & Kanfer, 2002). From perspective of several work based projects and approaches, the element of organizational strategy and commitment is important to handle and understand, especially in the healthcare industry (Tahir et al., 2012). According to Stanton et al (2010) recent evidences can be found that have received considerable interest from scholars on training and development across the healthcare industry. In addition, several studies can be found that have shown a significant impact from HR practices, including training and development, on business performance outcomes in developed economies like the UK and US (Fraser, et al., 2007; Silver, et al., 2002; West, et al., 2002). However, this seems to be missing a major point when it comes to developing nations like Saudi Arabia, as very little empirical evidence is available to facilitate practitioners in this regard (Ahmad et al., 2013).

The studies on quality management practices have examined several exogenous variables such as employee performance (Rungtusanatham et al. 1998), customer satisfaction (Anderson et al. 1995), and project performance (Shieh and Wu 2002). Training and development are considered important management practices for career growth and

appraising employees within an organization. With regard to quality management practices, several past studies have explored the relationship between training and development and innovation performance. In the same vein, Sadikoglu and Zehir (2010) found that training and development and the innovation performance of employees were mutually exclusive and had a positive relationship. In addition, this finding endorses that employee training and development can be introduced to produce better innovative products and services (Martinez-Costa & Martinez-Lorente 2008).

2.7 Culture in an Organization

The importance of culture is due to its impact on the overall outcomes of organizations (Schein, 2004); therefore, culture is a concept that needs to be examined in organizational studies (Detert, Schroeder, & Mauriel, 2000). There are many definitions of culture, but there is no specific definition that all are agreed on so far. That is because researchers adapt the concept of culture based on the nature of their study, or based on the context of their organizational scope (Büschgens et al., 2013). Even so, there is general agreement that culture is a collection of values, attitudes, beliefs, and behaviors shared by individual and groups (Hogan and Coote, 2014; Büschgens et al., 2013). Empirical studies on culture have been conducted based on the view that culture is a continuing and independent phenomenon that can be used separately for the purpose of analysis and organizational assessment (Detert et al., 2000).

There are many concepts that have been used to examine models of culture (Škerlavaj, Song, & Lee, 2010). Some view culture as a dynamic model that has complex multi-layers, and each layer can be utilized to study the culture (Schein, 2004). Therefore, and

based on the perspective of this study, there are no clear findings on which specific cultural layers impact innovation, as most studies describe culture as a combination of values, norms and artifacts shared among individuals and groups within an organization (Cameron and Quinn, 2006; Schein, 2004, Detert et al., 2000, Hogan and Coote, 2014). This definition involves all features that are included from most of the other definitions.

2.7.1 Dimensions of culture

Quinn and Rohrbaugh (1983) developed the model of Competing Values Framework (CVF). The CVF concept states that the culture of an organization should be given consideration to see how the culture influences the l organization's overall outcomes, and the planned and implemented changes that are linked to quality of performance. Accordingly, two dimensions of culture have been presented. The first one is related to organizational structure, organizational stability, organizational control, organizational flexibility and organizational change. The second dimension is concerned with the organization's external focus. Organizations may distinguish between an internal focus and an external focus. The internal focus is on the well-being and improvement of individuals in an organization, while the external focus is on the well-being and improvement of the organization itself.

2.7.2 Quality culture

The importance of culture is delineated from its impact on the overall outcomes of organizations (Schein, 2004). Culture is a concept needed in organizational studies (Detert et al., 2000), and as mentioned previously, culture has various definitions. Moreover, no specific definition has been agreed upon because researchers adapt the

concept of culture based on the nature of the study or on the context of their organizational scope (Büschgens et al., 2013). Nevertheless, the general agreement is that culture is a collection of values, attitudes, beliefs, and behaviors shared by individuals and groups (Hogan & Coote, 2014; Büschgens et al., 2013). Empirical studies on culture have been conducted based on the view that culture is a continuing and independent phenomenon that can be used separately for analysis and organizational assessment (Detert et al., 2000).

The culture of the organization should be coherent and involve an educational approach. In this sense, Topa et al (2004) consider culture to be a cognitive representation formed by a structured whole of common or shared beliefs among social system members. Good organizational cultures are characterized by norms and values that support excellence, teamwork, profitability, honesty, customer service orientation, pride in personal work and commitment to the organization (Baker, 1980). Likewise, TQM is normally described by in the literature as a management philosophy based on a set of central values, principles, dimensions or key steps.

The organizational environment and the organizational culture are both rooted in quality culture. In the search for a description of the quality culture of an organization, it is strongly connected to other types of culture, including management culture, communication culture, and the organizational culture. To take a good analytic approach to discovering different types of cultures, Schein (1992) explains that an organization's culture is the response of that organization to the challenges in a certain field. According to Gore (1999), the success of an organization is based on its quality culture; not only

this, but the organizational culture may also affect the following three elements: behavior of individual workers (Bose, 2004), knowledge sharing (Ooi et al., 2010), and job satisfaction (Ooi et al., 2007). In other words, total quality management and quality culture, when they go hand in hand, will lead to the following main elements: doing the right thing the first time, continuous improvement, and achieving consumer satisfaction (Sitkin et al., 1994; & Snell, & Dean, 1992).

To increase the quality of outcomes, products, systems, and processes, a quality culture must have a positive commitment to a flourishing environment, and quality culture should focus on continuous improvement. Quality culture is interrelated with the organization's policy or mission statement, and results in an appropriate way of making decisions. It ultimately pushes the organization towards an improved attitude and values, through which it can easily improve the quality level of service. Quality culture is also used to boost the customer relationship, employee communication, and employees' attitudes. It may also leads to the development of a sustainable quality culture, and for that, it is necessary to offer regular training and educational sessions. For improvements in competitiveness, quality culture is one of the top most critical factors. Based on Ehlers (2009)'s study, if any organization is lacking in its quality culture, it will lead the company to failure in enhancing its outcomes.

Within this view, quality is a culture that endeavors to ensure excellence and continuous enhancement (Dodwell & Simmons, 1994), and positive mental attitudes and initiatives are two factors of an organizational experience that can meet the objectives of increasing sales and profits, which is directly connected to the strengthening of relationships with

customers (Lenehan & Harrington, 1998). It has been claimed that quality culture, as part of the organizational culture, may be related to the habits, beliefs, values and behaviors required to improve the standard of quality (Gryna, 2001). In a similar way, Cameron and Sine (1999) describe quality culture as the sub-part of organizational culture that reflects the general approach, values, and theory on quality, which can increase motivation and improve organizational actions and behaviors. On the other hand, quality culture is meant to represent a direction towards business excellence. For instance, Batten (1994) uses this construct to represent the focus of every individual and the application of organizational assets and resources in an endless push towards improving quality from every dimension of an organization.

Theoretically, quality cultural change is not a consensual issue (Hildebrandt et al., 1991; Kujala & Lillrank, 2004), however it is considered to be vital in the process of organisational adaptation, because it challenges the external environment and increases competitiveness. Leadership, for the cultural change process requires two key elements, which are a current quality culture and the management of critical success factors, for effective quality culture management (Kanji & Wallace, 2000; Gryna, 2001).

According to Bergman and Klefsjo (1994), the central values form the basis of the organization's culture and, in this context, the quality culture can easily be personified in individual organizations, including education institutions. Therefore, the score values described by Bergman and Klefsjo (1994) are the basic quality organizational culture suggested in their model, representing the main cohesion elements of the organization and the perception of its components. In this way, the most representative values of the

total quality culture are some of those described by Berry (2005) in the following terms: the customer is what matters; teamwork and cooperation are basic requirements; continuous and long-term improvements rather than punctual and short-term solutions are necessary; quality is a comprehensive matter and everyone should maintain it; QM is not an isolated issue, but an integral process or set of processes.

To sum up, it is proposed to convert the TQM principles and practices into the organizational culture, whereby the set of values, rules, beliefs, hypothesis and ways of defining culture can be shared by people from a particular social group. Since, as Lopez-Fresno and Fernández-González (2007) state, the human factor covers practically everything, as work is among people, with people and for people.

Accordingly, it is also notable that enterprises with a quality focused work culture are more effective and successful in the implementation of TQM (Hilderbrandt *et al.*, 1991). Quality culture is defined as the process of clear norms, values and belief systems that could be used to harness total quality behavior (Linklow, 1989). According to Deming, Juran, and Crosby (2011), organizations require a healthy quality culture in order to boost performance. These scholars have also outlined how several cultural elements can be of importance for consistent improvement. In this regard, other scholars have emphasized improving and enhancing quality prospects for major refinement (Sommerville & Sulaiman, 1997). On the other hand, it is also important to note that quality management practices are of partial significance, as outlined by some studies (Pike & Barnes, 1994).

As per the study by Kanji and Asher (1993), the holistic quality culture model is principally based on four major indicators, which are education, training, involvement

and performance. Regarding this, encouragement and rewards are important for the purpose of enhancing performance. Likewise, a responsive organizational structure and appropriate policies are also critical for nourishing values and environmental prospects (Kanti & Yui, 1997). The authors present a quality culture model comprising of four environmental elements, namely, system management, strategy, and HRM. The model is also acknowledged in the refined version of Kanji and Asher's (1993) three stage pyramid.

Quality culture is also seen as significant for enhancing business competitiveness. In the view of Ehlers (2009), poor or ineffective quality culture can result in serious consequences that may damage business performance prospects. According to Rad (2006), quality culture and its effectiveness is concerned with the development of service design, business strategy, technology advancement, decision making and business upgrading. The work environment is principally the main artifact when it comes to organizational culture. These arguments clearly assert that for quality culture, enterprises need to have clear goals, and a combination of the aforementioned suggestions should result in yielding improved innovation performance.

2.7.3 Quality culture and QMPs

Culture is one of the most important elements affecting the organizational process in healthcare organizations. QMPs should be consistent with the culture of organizations, especially among service organizations (Al-swidi & Mahmod, 2011; Juneja et al., 2011). Some scholars have asserted that culture is crucial in implementing QM (Talib et al., 2011). It is also argued that a common difficulty in the implementation of QM in

healthcare organizations is creating a supportive culture (Mosadeghrad, 2013). Therefore, creating and supporting a proper culture are important indicators of successful QMPs, such as TQM implementation in the healthcare sector. TQM practices have an influence on culture (Santos-Vijande & Álvarez-González, 2007). Some examples are as follows: (i) Process management practices of TQM influence culture by regulating and arranging procedures and ordering a coherent system (Yusr, Mokhtar, & Osman, 2014). (ii) Service culture practices are embedded in the TQM system (Arshad & Su, 2015). The leadership practices of TQM should develop and support culture by following an appropriate leadership style (Sadikoglu & Zehir, 2010; Ooi et al., 2012; Plekhanova, Smith, & Hamdan, 2012). (iii) Employee empowerment and the involvement practices of TQM should support the culture by motivating employees and developing a sense of commitment toward organizational goals (Sadikoglu & Zehir, 2010). From the perspective of service organizations, such as healthcare organizations, soft QMPs have a significant impact on developing quality service culture as the main element that characterizes the entire culture of the service organization (Hoang, Igel, & Laosirihongthong, 2010; Talib et al., 2011). Roldán et al. (2012) examined the impact of TQM implementation on creating quality culture and found that TQM has a positive role in changing cultures to become quality-oriented. This indicates that TQM may not give optimum results unless a quality-oriented culture is used to satisfy customers (Rad, 2006).

Rad (2006) revealed that quality culture is connected to several factors, such as technology, organizational culture, service design, process management, business strategy, and the decision making of an organization. According to Ehlers (2009), quality

culture is the most essential part in the success of TQM implementation, while Fotopoulos and Psomas (2009) have reiterated the same notion by stating that in terms of problem solving and employee training, quality culture plays a vital role. They also found a relationship between quality culture and total quality management. Kanji et al. (1997) also observed that the critical factors of total quality management have a positive impact on quality culture. Similar findings are also reported by Rad (2006) and Zadry (2005) who claim that quality culture is a critical factor for TQM implementation to be successful, so it cannot be avoided. The implementation of Total Quality Management (TQM) is necessary because from the total quality management philosophy, full and due consideration has to be given to quality culture in terms of its practical orientation.

Towards management and the natural link between TQM and quality culture, quality culture should be given top priority by organizational members. If quality culture is based on TQM, according to Yong and Pheng (2008), a foundation of quality can be developed. It is not surprising that in current management, the main business strategy is TQM, and this is currently guiding companies around the globe towards success (Rad, 2006).

Based on the previous discussion, culture is a key factor in most organizations, and QMPs should be in line with the culture of these organizations. It is also claimed that QMPs generate a quality culture within organizations. Therefore, this study has used quality culture as a mediator for the relationship between QMPs and innovation performance, which will generate new information and insights regarding this relationship, particularly as such testing is not found in the current literature.

2.7.4 Quality Culture and innovation performance

The relationship between culture and innovation has been extensively studied. Diversity of cultural types, which are clan culture, adhocracy culture, market culture and hierarchy culture (Cameron and Quinn, 2006), and different cultural levels (Hogan and Coote, 2014, Schein, 2010), have led to different concepts of culture for innovation (Büschgens et al., 2013; Sadegh Sharifirad and Ataei, 2012). In addition, there is no clear conclusion on deciding what culture should be used and implemented in order to support innovation and its performance. One of the main factors considered to have impact on innovation is culture (Naranjo-Valencia et al., 2010). Since it impacts on employee behavior, it may help them understand innovation as a basic need for the organization to survive high levels of competition (Büschgens et al., 2013; Hartmann, 2006). Furthermore, previous studies argue that the impact of culture depends on innovation and the strategic orientation of the organization. Despite the essential role of culture in supporting innovation, previous empirical studies remain limited. Only a few studies have examined the impact of culture on innovation performance (Hogan and Coote, 2014; Büschgens et al., 2013; Naranjo-Valencia et al., 2010). Moreover, studies related to quality culture and innovation performance are scarce in the literature.

The main elements of culture (underlying assumptions, values, beliefs and norms) impact on innovation in that when individuals are involved in the culture, they know how to behave for the purpose of fostering innovation. However, how quality of culture effects innovation performance still requires empirical evidence. Although based on shared norms, individuals in an organization will make assumptions about the innovative behaviors that are needed (Tuan and Venkatesh, 2010). Values, assumptions and norms

become endorsed in developing behaviors that reflect the practices of quality culture that lead to innovation and create an innovative work environment. Quality culture supports innovation in many ways, such as determining solutions to problems, finding solutions, involving individuals within the culture and giving them the space to develop innovative norms (Naranjo-Valencia et al., 2011; Škerlavaj, 2010; Tuan and Venkatesh, 2010). Table 2.4 presents a summary of the studies on the relationship between culture and innovation.

Table 2.4
Summary of studies on the impact of culture on innovation

Study	Data source	Findings
Lee et al., (2008)	7 high-tech industries	• There is a positive and significant association between culture and innovation. • Different types of culture have different levels of influence on innovation
Škerlavaj et al., (2010)	201 companies	Organizational learning culture has a very strong positive direct effect on innovation and innovation culture.
Tuan and Venkatesh (2010)	8 private hospitals	Elements of culture (Mistake handling, Idea generating, Continuous learning culture, Risk taking, Competitiveness and Conflict handling) have an influence on technological innovation.
Naranjo-Valencia et al., (2011)	471 manufacturing companies	Culture is a clear determinant of innovation and its strategy.
Sharifirad and Ataei (2012)	Six large auto companies	Culture is correlated with an innovation culture.
Büschgens et al., (2013)	Literature review	The culture–innovation relationship reveals that it is not influenced by the differentiation between radical and incremental innovation. The potential reason is that those organizations that are geared toward innovation will pursue it, consequently, without differentiating between different kinds of innovation.

Hogan and Coote (2014)	100 Law firms	• Values supporting innovation positively influence norms for innovation. • Norms for innovation positively influence innovative behaviors • Norms for innovation positively influence artifacts of innovation • Artifacts of innovation positively influence innovative behaviors

Many studies have proven the positive relationship between culture and innovation (Hogan and Coote, 2014). However, the studies on the relationship between organizational culture and innovation performance based on culture levels are few in the literature. There are three main levels of culture: the first level is the artifacts level, which includes all the phenomena that an individual feels, realizes, sees, or hears when that individual enters to a new group with a different culture (Schein, 2004). Artifacts are seen as products of the group in an organization, such as the language, technology, style, emotional displays and stories about the organization. The working environment is the principal artifact when it comes to organizational culture. These arguments clearly assert that for quality culture, enterprises need to have clear goals. Such a combination thus results in yielding innovation performance.

Accordingly, the next element is values, which refers to individual feelings pertaining to how they want things to happen. Whenever individuals are assigned a role or responsibility to perform/look after, their decision comes principally from what they think and believe to be appropriate (Hogan & Coote, 2014). Put simply, when people have clear beliefs and values regarding quality culture, they are more responsive, and

make better judgments and take a corrective course of action, which ultimately influences performance. Thus, organizations can take maximum benefit from effective decision making through fostering an appropriate quality culture in the workplace. In addition, it also influences decision making and encourages bold ideas from employees for improved functioning and to facilitate innovation in performance and risk taking. In sum, these arguments indicate that an appropriate organizational culture can help foster the innovation performance of employees.

Lastly, the third aspect is the orientation, which the organization believes to be most appropriate and favorable (Schein, 2004; Aktas et al., 2011; Hoogan and Coote, 2014). There are very little variations in organizations pertaining to orientations, although the orientation of employees influences their decisions and course of actions (Schein, 2004; Aktas et al., 2011; Hoogan and Coote, 2014). When employees have healthy assumptions and thoughts, they perform better and express more responsiveness in their core working (O'Reilly et al., 1991; Hogan and Coote, 2014). Basic assumptions are essentially driven by a clear set of values, beliefs and norms. Leadership plays a notable role in this as employees are influenced by their leaders, resulting in positive outcomes and behaviors (Tappen, Weiss, & Whitehead, 2010).

2.8 Definition and theories of innovation

Innovation is defined by the OECD as "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations." This definition incorporates the previous definitions by Damanpour (1988),

Daft and Becker (1978) and Zaltman, Duncan and Holbek (1973). The most recent comprehensive definition of innovation is by Crossan and Apaydin (2010). They define innovation as the production or adoption, assimilation and exploitation, of a value-added novelty in economic and social spheres; the renewal and enlargement of products, services, and markets; the development of new methods of production; and the establishment of new management systems. Thus, innovation is both a process and an outcome.

Schumpeter (1883–1950) was the first person to analyze the capitalist economic dominated model and develop the theory that firm innovativeness is connected to firm size. He claimed that the flexibility of small firms makes them more innovative compared with large firms, which may become trapped in routine structures. An important view in his theory is the concept of "creative destruction," which calls for market restructuring for faster innovation. However, Schumpeter's theory has no empirical evidence to demonstrate the relationship between firm size and innovation ability.

Given that Schumpeter's theory lacks empirical support, academics have continued to investigate innovation topics, and many theories have emerged. Abernathy and Utterback (1978) developed a theoretical differentiation between incremental innovation and radical innovation. Their innovation model consists of the interaction of organizational structure, product innovation, process innovation, and the environment. The model was developed through three main stages. The first stage is the fluid phase, which involves the implementation of extensive changes. The second stage is the traditional phase, which focuses on technological application and customer needs. The third stage is company

maturity in innovation; it focuses on specific customers who are determined by the market trend.

Henderson and Clark (1990) developed another model to show that the argument of the incremental-radical innovation model is inadequate to clarify how organizations innovate. Their model is built based on knowledge perspective and the architectural knowledge model. The Henderson–Clark model classifies innovation into four types: architectural, radical, incremental, and modular innovation (Henderson & Clark, 1990).

Christensen (1997) noticed that some radical innovations only support the existing position of incremental innovation in some industries. This view opposes the prediction of some innovation models, such as Henderson–Clark. After investigating innovation in the hard drive industry, Christensen developed his theory based on the idea of staining and disruptive innovation contrast. He argued that part of the "innovators' dilemma" is that they "overshoot" market demand and customer needs. Therefore, innovators develop technologies and products that customers may not need. Disruptive innovation is radical in nature, whereas sustaining innovation is described as a type of innovation that is likely to be incremental.

Disruptive innovation is produced and presented according to the level of customer need. Such innovation is simpler, cheaper, and of lesser quality compared with existing products. Disruptive innovations in the early phase achieve marginally targeted goals or open new markets for the company. Such innovations improve faster over time according to customer demand, and are able to replace existing products and address the main

market demand. However, sustaining innovations can fail the company over time because they enhance the existing product in the long term.

2.9 Types of innovation

Crossan and Apaydin (2010) argue that innovation types should be understood under two main types: (i) innovation as a process for creating ideas and properly implementing them, and (ii) innovation as outcomes that are the end results of implementation. The process is the manner and techniques by which an idea is created and implemented, whereas outcomes are the resulting products, services, or business processes. Understanding and knowing innovation types are essential for organizations. Hurmelinna-Laukkanen, Sainio, and Jauhiainen (2008) argue that each type of innovation requires specific actions by the organization. The typology of innovation varies between studies. However, three typology approaches are dominant: incremental versus radical innovation, technological versus administrative innovation, and product versus process innovation (Zhao, 2005).

2.9.1 Technological innovation versus administrative innovation

Technological innovation is the adoption of new technologies that are incorporated into processes or products (Damanpour, 1988). It provides long-term success in the market through highly competitive advantages (Grover, Purvis, & Segars, 2007). Administrative innovation refers to the implementation of new ideas to improve organizational processes, routines, structures, or systems (Elenkov, Judge, & Wright, 2005). The two types of innovations under technological innovation are product innovation and process innovation. Product innovation is creating new goods or services to improve existing

goods or services (Burgelman, Wheelwright, & Christensen, 2009). Process innovation focuses on improving the effectiveness and efficiencies of production (Tarafdar & Gordon, 2007).

Administrative innovation is associated with the internal processes that support the delivery of a service or product. Some studies refer to administrative innovation as organizational innovation, whereas other studies refer to it as management innovation. Management innovation is defined in different ways by different studies. Kimberly and Evanisko (1981) define it as a program, product, or technique that represents a significant departure from the state of the art of management at the time it first appears, which affects the nature, location, quality, or quantity of information available in the decision-making process. Hamel (2006) defines management innovation as a marked departure from traditional management principles, processes, and practices, or a departure from customary organizational forms that significantly alter the way management is performed. Birkinshaw and Mol (2006) define it as the generation and implementation of a management practice, process, structure, or technique that is new and the state of the art, and is intended to promote organizational goals.

Organizational innovation has been defined as a new way to organize business activities, such as production or R&D, and innovations that have to do with human resource organization (Edquist, Hommen, & McKelvey, 2001). Damanpour (1988) defines it as an innovative change in a non-technological manner to a firm's nature, structure, arrangement, practices, beliefs, rules or norms. Administrative innovation is defined by Abernathy and Utterback (1978) and Daft and Becker (1978) as a new approach and

practice to motivate and reward organizational members, devise the strategy and structure of tasks and units, and modify the management processes of an organization. Tanninen, Jantunen, and Saksa (2008) define it as management activities that are connected with the organization's social system. Damanpour (1988) defines it as innovations that occur in the social system of an organization, including rules, roles, procedures, and structures related to the communication and exchange among people and between the environment and people. Daft and Becker (1978) define administrative innovation as pertaining to the policies of recruitment, allocation of resources, and structuring, and as a reward that is related to the administrative core of the organization.

2.9.2 Radical innovation versus incremental innovation

Radical innovation is new and diverse compared to previous innovations, whereas incremental innovation alters existing innovations (Golder, Shacham, & Mitra, 2009). Innovations must be unique and novel to be radical. The most radical innovations are new and exceptionally different from existing innovations. An example is the radical innovations of AOL's instant messenger service. AOL was the first to start a contemporary Internet-wide messenger service in May 1997. Another example is Amazon.com, which is able to offer numerous books online compared with traditional bookstores. The transistors created by Bell Labs, is another example, which also played a major role in the electronics industry.

Incremental innovation involves the revision or alteration of existing products or services (Burgelman et al., 2009). It improves the way customer satisfaction can be achieved and

increased. Examples of incremental innovation are the audio and video messengers that allow simultaneous conversing with and seeing other people.

2.10 Measuring innovation

Many studies, such as Prasad and Nori (2008), have measured and evaluated innovation. Hage (1999) states that organizational innovation is measured through the percentage of profits or sales that result from innovation initiatives; the rate of new products, services, or solutions provided; the number of ideas generated; the number of patent submissions; the total cumulative working hours set into an innovation initiative; and the variety of human resource capital.

Measuring innovation should be based on the performance indicators of the firm (Voss, 1992), including financial improvement, development achieved compared with the competition, useful employment of resources, flexibility of the process, degree of service quality, effectiveness of the innovation, speed of implementation, and cost of the innovation process and program.

Other measurement innovation models proposed by Kanerva and Hollanders (2009) have been excerpted from the European Innovation Scoreboard to be used for measuring innovation in service. Kanerva and Hollanders's model includes business R&D expenditures, non-R&D innovation expenditures, collaborating with others, level of firm renewal, resource efficiency innovators, new-to-market sales, new-to-firm sales, employment in innovation, knowledge-intensive services, and knowledge-intensive service exports.

The most important elements that influence innovation are the characteristics of the top managers and staff. Furthermore, other elements have a notable influence on innovation and its outcomes, such as a culture that supports innovation, the availability of business resources, the general political environment, the social atmosphere, and technical settings (Gambatese & Hallowell, 2011).

Some scholars have reported that the capacity of an organization for innovation significantly influences many factors, such as the ability to deal with conflicts that appear in the organization (Hausman, 2005); industry experience (Damanpour & Schneider, 2006); the age of top managers and senior staff (Huber & Glick, 1993); the level of education of managers (Hausman, 2005), and the willingness to share responsibility and control (Gambatese & Hallowell, 2011).

2.11 QMPs and innovation

The importance of a positive relationship between QMPs and innovation has been proven by numerous studies (Arshad & Su, 2015; Bon & Mustafa, 2013; Kim, Kumar, & Kumar, 2012b; Moreno, Domínguez, & Egea, 2011; Sadikoglu & Zehir, 2010). Given the development of QMS, such as TQM, the relationship has started changing into a complementary relationship, and terms such as quality innovation have emerged to present a different conceptual view (Lee, 2015). Such terms add an integration characteristic to the relationship between QMPs and innovation. For example, QM and innovation enhance performance and increase competitive advantage (Fernandese et al., 2014; Kafetzopoulos et al., 2015).

QMPs have an impact on developing innovation through their influence on the orientation to innovate. Orientation to innovate is grounded in many factors, such as recognition and decentralization (Moreno et al., 2011). In an organization that uses the TQM system, these factors create an environment that redirects the organization toward innovation. This argument states that QM is an innovation supporter and creator through its impact on orientation to innovate. Thus, QM influences innovation on different levels: creation (Moreno et al., 2011), performance (Arshad & Su, 2015; Kim et al., 2012; Ooi et al., 2012), QM–innovation integration (Lee, 2015), and innovation output levels (Fernandes et al., 2014).

The relationship between QM and innovation is characterized by complexity (Krivokapic, Vujovic, Jovanovic, Petrovic, & Pekovic, 2013), which emerges from the multiplicity of QMP dimensions. Complexity also occurs from the variety of innovation typologies (Bon & Mustafa, 2013). The theoretical approach indicates the positive relationship between QMSs and innovation. QMSs help innovation by using the outcomes of practicing the main QM principles, such as a human resource management focus, continuous improvement, and customer focus (Krivokapic et al., 2013). Empirical studies have supported this trend by showing the positive influence of QMPs on innovation. When examining the impact of QMPs, such as the practices of TQM, empirical studies have indicated continuous improvement practices to be the most important factor leading to innovation (Krivokapic et al., 2013). In addition to the positive impact of QM on innovation, QMSs create innovation measurement systems that consist of the context of the influence and outcomes of QMSs regarding innovation in the organization.

The same view on the human factors of quality models is emphasized by Hernández, González and Aquiahuatl (2013). From the perspective of empirical studies, QMSs and quality culture according to the human factors approach are the ideal strategic systems that form the organizational management system and promote organizational competitiveness. They support the organizational management system through the QM practices that create a strong quality culture. The quality culture directs managerial decisions toward effectiveness. QMSs and quality culture create and support strong competitiveness through innovation and creativity, particularly human innovation and creativity (Hernández et al., 2013).

QM has also shown a positive influence on orientation to innovation. An organization that uses QM creates an innovative-supportive environment. The supportive environment fosters innovation through the influence of QMPs on the elements of cohesion, recognition, formalization, and decentralization (Moreno et al., 2011). QM helps innovation under the influence of its practices in revealing a culture that fosters innovation, such as a customer focused culture and teamwork culture.

The positive relationship between QMPs and innovation has been confirmed by Kim et al. (2012), who developed their framework based on previous studies on QMPs with respect to their impact on organizational performance and innovation. The authors examined the QMPs of management leadership, customer relationship, supplier QM, employee relations, training, process management, quality and data reporting, and product design.

Long et al. (2015) reviewed studies to explore the relationship among TQM, innovation performance, and innovation capability. They identified TQM practices as the most common practices that influence innovation performance and innovation capability. These practices include leadership, strategic planning, customer focus, process management, and people management, all of which impact innovation capability and present the mostly soft side of TQM practices.

QMPs also have a direct impact on innovation and an indirect impact through innovation on competitiveness (Kafetzopoulos et al., 2015). They mainly examine the relationship among QMPs, innovation, and competitiveness. Another recent study supports the positive impact of QMPs on innovation, but in more detailed practices and innovation types; Fernandese et al. (2014) examined the relationship among TQM practices, innovation, and its output. The results revealed that TQM practices have a positive influence on innovation and its output. They identified the TQM practices of leadership, customer focus, continuous improvement, involvement and development of people, relations with suppliers, measurement of results, and product design. The extensive innovation types they examined, combined with the perspective of innovation output, have made their study comprehensive with regard to the relationship between TQM and innovation. On the part of innovation, they used the following variables: research, development of technological innovation, product innovation, product innovation, organizational innovation, management innovation, and marketing innovation. Table 2.5 summarizes the studies on the relationship between QM and innovation discussed above.

Table 2.5
Summary of studies on the relationship between QM and innovation

Study	Purpose/Objective	Independent variable (if available)	Dependent variable (if available)	Findings/factors
Moreno et al. (2011)	To examine the influence of QM on orientation to innovation	Cohesion, recognition, formalization, and decentralization	Orientation to innovation	QM (cohesion, recognition, formalization, and decentralization) has a significant positive influence on orientation to innovation in a service firm.
Kim et al. (2012)	To examine the relationship between QM and innovation	QMPs	Innovation	QMPs (management leadership, customer, relationship with supplier, QM, employee relations, training, process management, quality and data reporting, and product design) have a positive impact on innovation.
Krivokapic et al. (2013)	To review the effects of QMSs on innovation			QMSs help innovation. QMSs achieve goals better when organizational management focuses on people to develop innovation.
Hernández et al. (2013)	To review the relationship among QMSs, quality culture with human approach, and innovation			QMSs and quality culture with human approach support the high degree of competitive advantage through innovation in manufacturing SMEs.

Table 2.5 (continued)

Long, Kowang, and Wan Ismail (2015)	To review the relationship among TQM, innovation performance, and capability			TQM practices of leadership, strategic planning, customer focus, process management, and people management have an impact on innovation capability.
Kafetzopoulos et al. (2015)	To examine the relationship among QMPs, innovation, and competitiveness	QMPs	Innovation and competitiveness	QMPs have a direct impact on process and product innovation. Through its impact on innovation, QM has an influence on competitive advantage.
Fernandese, Lorenco, and Silva (2014)	To examine the relationship among TQM practices, innovation, and its output	TQM practices	Innovation	TQM practices (leadership, customer focus, continuous improvement, involvement and development of people relation with suppliers, measuring results, and product design) have a positive influence on innovation and its output (research, development of technological innovation, product innovation, product innovation, organizational innovation, management innovation, and marketing) innovation).

2.12 Innovation Strategy

Innovation strategy has various definitions that are presented in different frameworks. Taylor and Greve (2006) define innovation strategy as an innovative change used to create new products. Bhaskaran (2006) defines innovation as strategic practices that involve change and risk taking. Innovation strategy includes the process and practices of developing and introducing new products, developing new sales, introducing new technology, and creating new managerial procedures (Damanpour, 1988; Davila, Epstein, & Shelton, 2006). However, the most widely considered description is by Davis, Muzyrya and Yin (2013), who state that innovation strategy is explicit to organizations because it measures the organization's willingness to innovate.

Owing to the intensive competition generated by information technology, organizations have to seek out a strategy that creates a strong competitive advantage. Organizations need to develop a culture that leads towards innovation to create and maintain a competitive advantage. Naranjo-Valencia, Jiménez-Jiménez and Sanz-Valle (2011) believe that, from the perspective of organizational strategy, innovation strategy can link the culture of an organization with its innovation. For instance, leaders that follow a radical innovation strategy in organizations using QM should create a developmental culture to support radical innovation strategies in their organizations (Büschgens et al., 2013).

The literature on innovation has theorized "innovation strategy" as a distinct type of strategy (Cheng et al., 2010). Additionally, researchers have proposed various classifications of innovation strategies, such as organizational innovation, market

innovation, process innovation, product innovation (Staub et al., 2016), and service innovation (Santamaría et al., 2012; Hidalgo & D'Alvano, 2014).Cheng et al. (2010) propose that a firm can choose to apply different classifications of innovation strategy to achieve its objectives or to enhance its competitive advantage. Such an advantage can arise from the firm's ability to differentiate its offerings, such as from service innovation (Hidalgo and D'Alvano, 2014) and serving customers' needs (Rapp et al., 2010).

In the present study, service innovation orientation within innovation strategy represents a service orientation for developing new solutions or improving existing services that meet healthcare services' current and future requirements to improve performance. Because this innovation strategy emphasizes determining and addressing healthcare preferences, it generally excludes other concerns. Several researchers have used innovation strategy to emphasize the importance of developing innovation performance in a firm (Cheng et al., 2010; Hidalgo and D'Alvano, 2014). Although understanding the relationship between innovation strategy and innovation performance is essential, managers are concerned with identifying innovation strategies that can be implemented to support the service sector, which enables it to support the firm in improving its service quality and flexibility, as well as meeting customer requirements more effectively.

Therefore, it is proposed that innovation strategy stems from the business management literature (O'Cass & Sok, 2013; Ngo & O'Cass, 2012), in which service-oriented concepts are used to attempt to assist a firm in solving customer problems to the extent that customers feel satisfied. Specifically, the system can manage the requirements of existing customers and easily infer likely alternatives that satisfy their needs; thus, the

system can help the firm derive a competitive advantage. A previous study shows that managers in Mexican financial and information technology (IT) firms perceived innovation strategy to indirectly affect their firm's competitive advantage (Verma & Jayasimha, 2014), although innovation strategy is closely associated with service information management. Other studies have indicated that senior managers emphasize the relationship between innovation strategy and a value offering in business-to-business service firms (O'Cass and Sok, 2013). Thus, innovation strategy orientation is likely to be a direct antecedent to value offerings in innovation performance.

2.13 Innovation strategy, innovation performance and QMPs

Innovation strategy is one of the main elements for achieving a strong competitive advantage (Crossan & Apaydin, 2010). QMPs have an impact on creating an innovation strategy and innovation orientation culture through their impact on innovation performance. Thus, many theoretical frameworks have extensively studied the impact of QMPs on innovation. The main recommendation is that a QM system should be applied as the main strategy in the organization (Dean & Bowen, 1994). In other words, QMPs impact the strategy to be innovation oriented, and in turn, being innovation strategy oriented impacts innovation performance.

Management initiatives- innovation strategy execution and innovation-focused human resource (HR) policy- are examined because of their importance in improving innovation performance (Li & Atuahene-Gima, 2001; Beugelsdijk, 2008; Crespell & Hansen, 2008). Innovation strategy execution can be defined as the extent to which, for the promotion of innovation, a firm has taken specific action or implemented plans which reflect that

innovation is a priority in a firm. Similarly, an innovation-focused HR policy can be defined as the extent to which the development of innovation is fostered, and whether a firm adopts people-focused policies, including on recruitment and selection, and reward systems (Huselid,1995; De Kok, Uhlamer, & Thurik, 2006; Beugelsdijk, 2008). Finally, to achieve successful innovation outcomes, innovation strategies are needed, as innovation performance is related to the effectiveness of any firm in developing new products relative to its competitors (Verhees & Meulenberg, 2004).

For example, Nortel Networks' failure, required a massive efforts to recover after the 2000 crisis occurred because of the company's lack of direction and innovation strategy (Cooper & Edgett, 2010). Also, the adoption of an innovation-focused HR policy is an important element of organizational design. For example, such a policy will help a culture that is supportive of risk taking and innovation (France, Leahy, & Parsons, 2009). Thus, for the achievement of organizational innovation strategies, innovation-focused HR policy plays an essential role.

However, to attain various organizational outcomes, innovation strategy and innovation-focused HR policies have both been found to contribute (e.g., Li & Atuahene-Gima, 2001; Beugelsdijk, 2008). The innovation performance of firms depends on some aspects of innovation strategies which have been found to have a positive effect on it (Crespell & Hansen, 2008); to ensure the effectiveness of innovation strategies, a firm must adopt a good HR policy because it is directly related to it. This is because the strategies of firms are centralized by HR issues (Barney, 1991, 1995; Lado & Wilson, 1994; Laursen & Foss, 2003). For instance, when adopting an innovation-focused HR policy, highly skilled

employees are needed who have the required expertise, and they can easily solve innovative and difficult problems; secondly, highly motivated individuals are needed who are able to work in a more efficient way and go the extra mile to search for new ideas (Amabile, 1998; Seijts & Latham, 2005).

In addition, to facilitate an innovative organizational culture, HR policies must include rewards and recognition systems that encourage innovation. This type of culture tends to be supportive of the firm's innovation strategy because this culture generates an environment that results in rewards for success, promotes risk taking, and provides freedom to experiment (Burns & Stalker, 1961; Damanpour, 1991). A review of the literature shows that there are conflicting arguments concerning the relationship between TQM and innovation (Prajogo and Sohal, 2001). There are arguments to support a healthy and positive relationship among TQM and innovation that contend that companies implementing TQM in their system and culture will provide a productive environment for innovation because TQM expresses principles that correspond with innovation (Dean and Evans, 1994; Kanji, 1996; Chandra, 1993; Roffe, 1999).

2.14 Leadership

2.14.1 Conceptualization of Leadership Behavior

The literature includes traditional and current research on leadership that focuses on theories of trait and characteristic, behavioral, and contingency factors. In addition, the literature includes topics related to leadership approaches, specifically, task, relation, and change orientations that help as categories of leadership behaviors. A closer search of leadership behavioral variety includes behavioral complexity and portfolio. The focus of

the search was on three points: the nature of effective leadership behaviors for innovation, the influence of general and contingent leadership behaviors in an innovation context, and the methodologies followed in the research studies.

Innovation has been described as an important element for sustained organizational competitiveness (Smith et al., 2008). The main challenge is the task of promoting and leading the process of innovation (Smith, Busi, Ball, & Van der Meer, 2008). Most past theorists have studied leadership effectiveness by clarifying leadership behaviors. Leadership behavior is defined as the manner of an individual in a leadership role (Stempihar, 2013). The focus of theories of leadership is on leadership characteristics, leadership behavior, and leadership situational approaches to effective leadership (Yukle, 2010). The current challenges within the new technological era have increased the complexity of leaders' missions. The complex nature of leadership behaviors generate an integrated perspective when studying the influence of leadership behavior on innovation (Rosing, Frese, & Bausch, 2011).

2.14.2 Behavior theories of leadership

Philosophy of the workplace used to be characterized by the modernism values that dominated during the industrial age between 1910 and 1980 (Drucker, 2006). Industrial leaders focused on production and profits. In 1960, McGregor presented leadership theories X and Y. He defined the imposing leadership style as X and the participative leadership style as Y. The imposing style focuses on production and control of worker by the leader. More recently, the participative leadership style has started to focus on democratic leadership in decision making. However, many researchers have become

unsatisfied with the earlier traits methods for clarifying leadership success ad have started to consider behavioral theory (Stogdill, 1974).

Social theory describes the natural characteristics of leaders and their behaviors as resources to lead successfully through stressing and showing certain actions, rather than personal traits. Some studies on behavioral leadership have revealed that there are two main categories of leadership behavior: focus on task and focus on people. Focus on task involves focusing on achieving the allocated task in order to meet deadlines and apply standards. Focus on people is concerned with feelings and the needs of followers, such as accepting their suggestions and equal treatment (Stempihar, 2013). Other study revealed that there are three types of leadership behavior: task oriented leadership behavior, relations oriented leadership behavior, and participation oriented leadership behavior. Task oriented behaviors focus on preparation and scheduling work based on the available resources. Relations oriented behaviors focus on promoting supportive feelings, showing trust, keeping followers informed, and distinguishing followers' contributions.

According to Yukle (2010), the roles of leadership behaviors can be divided into four categories:

i. Making decisions
ii. Seeking information
iii. Building relationships
iv. Influencing followers

Seeking information includes actions such as monitoring the work process and flow, clarifying roles and tasks, and distributing the necessary information to workers in order to enable them to carry out their missions. Decision making involves the planning stage, problem solving, delegating, and consulting. Relationship building includes team building, conflict controlling, mentoring, and networking. Influencing followers includes recompensing, recognizing and motivating for a creating participative working environment.

Ekvall and Arvonen (1994) introduced an innovation leadership model that includes the preferred leadership style and is a mixture of three categories: task orientation behaviors, change orientation behaviors, and relation orientation behaviors. The participative leadership style allows leadership to arise by creating interactions in a friendly environment between the leader and followers (Boisot & McKelvey, 2010). Adaptive leaders must identify the social issues around work and build effective relationships (Manolis et al., 2008). Adaptive leaders can implement changes by showing direction, engaging followers in decision making, changing their perspectives, developing new behaviors for directing conflict, and shaping a new environment for norms to be accepted (Lowder, 2009). Leadership's adaptive ability affects innovation by harmonizing organizational knowledge transfer (Almirall & Casadesus-Masanell, 2010).

Ekvall and Arvonen's (1994) theory of leadership behavior provides important insights into effective leadership behaviors. The challenge for leaders is harmonizing and pulling all behavior types together. Similarly, the executive grid combines concerns for manufacturing and people providing four types of leadership behaviors, which are

selling, telling, participating, and delegating (Blake & Mouton, 1984). Telling is related to high task and low relationship behavior. It is characterized by showing direction to groups and clarifying roles and goals. Selling is related to high task and high relationship behavior and it is characterized as a training approach with which the leader shows direction during the buying process. Participating is related to high relationship and low task behavior, and it refers to the shared decision making process between leaders and followers, emphasizing high support and low direction. Delegating is related to low relationship and low task behavior, and it refers to identifying the problems to followers to seek a proper solution (Blake & Mouton, 1984) as cited in (Stempihar, 2013).

2.14.2.1 Trait and characteristics theory

Trait theory was dominant in the workplace during the earlier industrial decade. Trait and characteristics theory asserts that all leaders have similar personal characteristics, and that leaders are born, not acquired. Leadership trait research includes the examination of the physical, mental and social, characteristics of leaders in order to clarify the relationship between traits and leadership effectiveness (Barnett and McCormick 2012).

There is a five factor model of personality developed known as the big five theory. This theory includes five core traits involving creating a personality: leader agreeableness, leader conscientiousness, leader extroversion, leader neuroticism and leader openness (Costa & McCrae, 1992). Extroversion and neuroticism are considered characteristics related to the appearance of sensitivity to incentive and threat; conscientiousness is related to tendency to apply and follow rules; agreeableness is related to selflessness and cooperation; openness is related to tendency to discover and use of information

(DeYoung, 2010). Other trait and characteristic theories, such as the theory of Stodgily (1948), identify leaders' characteristics that differentiate them from followers. These characteristics include:

i. The degree of motivation to work continually to reach goals.
ii. Achievement effort that generates ambition and initiative.
iii. The degree of integrity that promotes trustworthiness and reliability
iv. The degree of self-confidence.

Stogdill (1974) reviewed a great number of characteristics and trait studies and concluded that traits depend on the condition, with no evidence of the existence of general leadership characteristics. He further argues that a leader's use of specific characters and skills may not ensure effectiveness. In contrast, recently, some researchers have argued that leadership effectiveness is generic and global (Hamlin, Nassar, & Wahba, 2010).

Some traits might prompt leaders towards certain behaviors. These traits include:

i. Knowledge of leaders
ii. Charisma of leaders
iii. The ability to negotiate in complicated situations
iv. The ability to network and create new relations (DeRue, Nahrgang, Wellman, & Humphrey, 2011).

A significant number of studies on the trait method did not lead to the identification of specific characteristics that lead to leadership success. Most traits limit their usefulness in understanding effectiveness (Judge, Piccolo, & Kosalka, 2009).

2.14.3 Transformational Leadership

Transformational leadership plays a notable role as well, whereby employees are influenced by their leaders, resulting in positive outcomes and behaviors (Whitehead et al ,2010). Regarding this, transformational leaders have been found to be highly effective in motivating and inspiring subordinates for the achievement of common goals and objectives (Richardson & Storr, 2010). Transformational leadership is evident when leaders strive to guide employees towards the right direction, spread awareness and motivate them to work beyond their self-interests for better individual, group and organizational outcomes. Transformational leaders induce a sense of purpose and meaning among subordinates, which goes beyond conventional rewards and tangible benefits (Bass & Avolio, 1997).

Scholarly work in the area has outlined the significant role and impact of leadership in fostering healthy work environments and systems. In the view of Baker and Norton (2001), the role of a leader is important when it comes to the healthcare sector and patient safety especially. However, Leape and Berwick (2000) have asserted that leaders have failed to outline safety and its importance, due to which people are found to be less focused on this aspect. Therefore, leaders and organizational stakeholders are encouraged to underline safety as one of the core organizational objectives to enhance individual commitment towards it.

Studies have reported a significant impact and correlation between transformational leadership and several individual and organizational outcomes (e.g., Bass, 1997, 1998; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996; Murphy, 2002). Past studies in this regard have shown its significance across different occupational settings and work cultures (e.g., Bass & Riggio, 2005; Avolio & Yammarino, 2002; Walumbwa, Orwa, Wang, & Lawler, 2005).

Furthermore, most studies have obtained significant results pertaining to transformational leadership and organizational outcomes, such as reducing employee stress, fostering satisfaction, minimizing dissatisfaction, enhancing commitment and maximizing productivity (e.g., Daenzer, 2009; Murphy, 2002; Avolio, Weichun, Koh, & Bhatia, 2004; Walumbwa *et al.*, 2004). In particular, it has been noticed that transformational leaders generally outperform leaders with other types of styles. In a review of 100 studies, transformational leadership expressed more promising positive performance outcomes compared to all other leadership styles. Likewise, research work has also highlighted transformational leadership as an important approach for enhancing subordinate satisfaction and motivation on the job (Judge & Piccolo, 2004).

These evidences clearly highlight how transformational leadership is vital and holds massive significance when it comes to organizational performance. Accordingly, past studies have also indicated and confirmed the validity of a multi factor leadership questionnaire for the investigation of transformational and other leadership styles (Bass & Avolio, 2004; Judge & Picollo, 2004). Dozens of studies have been conducted to confirm this tool in several occupational settings and work groups.

The present study aims to investigate transformational leadership as the core leadership style. The principle difference between QM leadership and transformational leadership style is that QM leadership mainly focuses on quality management and related systems, whereas transformational leadership works to focus on the entire organization and its operations.

Leadership is the quality which refers to the power of the individual and how they influence other individuals (Tappen, Weiss, & Whitehead, 2004) and raise achievement and motivational levels so that they encourage them to develop specific characteristics and achieve common aims (Richardson & Storr, 2010). Transformational leadership is a form of leadership which occurs when leaders act in a way that they maximize the awareness of their fellows about what is right and important, to raise their motivational maturity and make them able to move and to see beyond their self-interests; their preference must be in the interests of the group, and in this context, the group is the organization and the society as a whole. Transformational leaders also promote their fellow's sense of purpose so that they do not become materialistic, they have to think rationally and do not want rewarding for effort exchange (Bass & Avolio, 1997).

From the literature, the significance of leadership can be noted, and how its role in developing the work environment is important within an organization. According to Baker and Norton (2001), a leader's role is important in the development of a patient safety plan. Similarly, Leape and Berwick (2000) state that regarding safety realization, leadership is the main element of success, and if professional and organizational leaders have a lack of commitment, then it is difficult for them to achieve success, and there will

be fragmented and uncoordinated efforts. Thus, they advise senior leaders to set an organizational goal and reinforce it with suitable resources, so that they feel personally responsible for each error. In this field, most studies (Bass, 1985; Burns, 1978) have concentrated on the assigning of leaders within the categories of leadership they must follow for transformational leadership theory. This is followed by Kelloway et al.'s (2006) study that offers the probable existence of a direct association between transformational leadership behaviors and outcomes. Both studies assessed young workers from the perspective of a low hazard industry due to which they lacked generalizability. As discussed earlier, researchers are interested in evaluating how transformational leadership behaviors are linked to safety-related outcome variables like frequency and severity of injury, but from a healthcare institution perspective, this has been studied by few researchers. Bass and Avolio (1994) attribute transformational leaders as having idealized influence, intellectual stimulation, inspirational motivation and individualized consideration. These attributes enable transformational leaders to motivate subordinates, so they work for them and act towards long-term self-development instead of short-term. Transformational leaders urge followers to work for the group, organization and society, instead of their personal self-interests, and concentrate on the most critical facets of their life and work (Bass, 1990).

Contradictory to popular opinion, leadership and management are significantly different from each other; organizations usually define the management skills needed for a particular position, whereas they often failed to identify the leadership skills for the same position. In accordance, with that, the predictive value of leadership characteristics in guaranteeing operational success with regard to organizational outcomes is still

ambiguous. Therefore, tacit consensus exists concerning the relationship between leadership behaviors and organizational outcomes are linked to safety. However, there are lack of studies on the impact of these behaviors on outcomes (Steensma, 2010).

In most organizations, managers are usually involved in carrying out activities, supervising tasks and assessing the progress of subordinates, rather than providing leadership. Conversely, leadership is defined as the relationship with different facets, encompassing the association between followers and leaders (Hirtz, Murray, & Riordan, 2007; Kark & van Dijk, 2007). The transformation of followers into future leaders is the primary task of a leader (Taylor, 2003). Leaders basically provide vision and mission, and setting values and developing goals are the main responsibilities that distinguish leaders from managers (Clovard, 2003). Furthermore, transformational leadership is related to enhancing the future state of the organization, whereas management is related to the maintenance of its present state. Additionally, managers are appointed to their position, while leaders are granted a role by their followers to influence the latter. According to Bass and Avolio (1995), there are five distinct dimensions of transformational leadership:

1. Idealized Influence (charisma-attributed): referred to as the ability of the leader to gain the trust of his/her followers and motivate them to go beyond their self-interests.

2. Idealized Influence (behavior): refers to the ability of the leader to share beliefs and values with his/her followers, persuade them to understand the mission, and inform them about the consequences of decisions.

3. Inspirational Motivation: is the ability of the leader to motivate his/her followers to have confidence in their ability to pursue challenges as well as inspire them to have an optimistic attitude.

4. Intellectual Stimulation: refers to the ability of the leader to stimulate his/her subordinates to develop problem-solving techniques and to be innovative and creative.

5. Individual Consideration: refers to the unique quality of the leader to respect his/her followers as individuals and respond to their needs in a timely manner.

According to Bass and Riggio (2006), transformational leaders are effective in encouraging people towards goals and their achievement. Such leaders have a combination of positive characteristics that are necessary for the healthy revival of performance prospects in an organization (Sosik, Kahai, and Avolio1998; Jung 2001). To illustrate, a study by Pawar and Eastman (1997) suggests that transformational leaders are effective in some work environments only, whereas Ahmad et al. (2011) have underlined how leaders' styles and their significance varies due to constant changes and developments in the work environment. Likewise, Dougherty and Hardy (1996) have highlighted that transformational leaders are more robust and positive about creative thinking and innovative processing, which can help employees to boost their innovation efforts. Such leaders also help employees to capitalize on available prospects and resources for better performance. This also boosts their confidence and self-belief, which leads them to invest more energy and effort in personal development (Dvir, Eden, Avolio, & Shamir, 2002). Some researchers have suggested that transformational leaders are also responsible for creative ideas and harnessing motivation amongst employees (Mumford,

Scott, Gaddis, & Strange, 2002). A study by Garcia-Morales et al. (2008) found a positive role and influence from transformational leadership on the innovation performance of employees across a large Spanish company. The findings also outline higher innovation performance in the company compared to other organizations where leaders exercised different leadership styles. Likewise, Jung et al. (2008) investigated 53 Taiwanese companies and found no significant correlation between transformational leadership and innovation performance.

2.15 Transformational leadership and QM, and innovation

There are many studies that have explained the importance of leadership as the foundation for enhancing the role of QM in innovation performance (Ulle & Kumar, 2014;Bass & Avolio, 1999; Yukle, 2010). Within leadership types, transformational leaders encourage advanced performance in organizational departments which are open to innovation and flexible to change (Bass, 1985). There are several studies that have shown that transformational leadership positively influences organizational innovation. The findings of one such study suggest that transformational leadership promotes innovation and promotes factors that enable innovation (Gumusluoglu and Islev, 2009).

Bass and Riggio (2006) highlight how transformational leaders are well suited to promoting creative and innovative goals. A transformational leaders is said to possess a combination of positive behavioral components recognized as improving performance and innovation among followers within organizations (Sosik, Kahai, and Avolio 1998; Jung 2001). In addition, Pawar and Eastman (1997) suggest that transformational leaders are associated with certain environmental factors. Ahmad et al. (2011) noted conditions

such as the complexity, uncertainty, and novelty of tasks that involve constant changes, provide a suitable environment for innovation to prosper. In addition, Dougherty and Hardy (1996) claim that transformational leaders are more open to the facilitation of unconventional and innovative thinking and working processes that can lead to new knowledge and technologies fundamental to the firm's innovation efforts. Such leaders focus on elevating team members' goals, broadening their knowledge base, increasing their self-confidence, and providing motives and opportunities for their personal development (Dvir, Eden, Avolio, and Shamir, 2002). Transformational leaders may champion creative ideas, act as role models (Howell and Higgins1990), and stimulate team members' motivation (Mumford, Scott, Gaddis & Strange, 2002). Recently, researchers have assessed transformational leaders' outcomes in the context of CEOs. For example, Garcia-Morales et al. (2008) found a positive relationship between transformational leaders and innovation based on the CEOs of large Spanish firms who were asked to compare the general level of transformational leaders in their organizations with that in other organizations. Jung et al. (2008) carried out a survey of senior manager at electronics and telecommunications firms and found that transformational leaders increase organizational innovation.

Based on the literature review on QM in hospitals in Saudi Arabia, leadership has been found to be one of the main elements that support quality orientation and innovation. Alharbi and Yusoff (2012) found that transformational leadership is positively associated with QM in hospitals in Saudi Arabia. Regarding QM, the theoretical studies are rich with such arguments (Dean & Bowen, 1995; Lakshman, 2006). Moreover, Doeleman, Have

and Ahaus (2012) found that transformational leadership is the most influential factor among the factors that influence the excellence of a business organization.

However, a study on examining the moderating effect of transformational leadership on the relationship between QMPs and innovation performance cannot be found in the literature. This relationship needs to be studied, especially when QMPs' soft factors and innovation are considered (Schniederjans & Schniederjans, 2015). Thus, the current study includes transformational leadership as a moderating variable on the relationship between QMPs and innovation performance in hospitals to fill the gap and share new findings and insights.

2.16 Underpinning theory

In the literature on QMPs and innovation performance in the context of the healthcare sector, a number of theories have been developed and utilized to constitute the theoretical grounds upon which they are based. These theories have attempted to explain the nature of the relationships among the determinants of innovation performance in general, and the performance of organizations operating in the healthcare sector in particular.

2.16.1 Resource Based View

The resource-based view (RBV) of the firm is an important theoretical model to understand the sustainability and creation of competitive benefit and thus to explain why firms perform in a different manner (Barney, 1991; Zott, 2003). The current study has proposed a resource-based view of the firm by expanding and building on the resource-based view (RBV). Given the assumptions about the attributes of human resources and

quality practices, a firm is conceptualized as a foundation for the integration and creation of knowledge (Grant, 1996).

In this research, we share Wernerfelt"s (1984, p172) comprehension of assets as "anything which would be taken as a quality or limitation of a given organization." "Resources embrace both the abilities and resources" (Wade and Hulland 2004) whereas the term, abilities, alludes to the capacity of an organization to perform an organized set of tasks (forms) with the end goal of providing a specific final product (cf. Helfat and Peteraf 2003). Resources, conversely, are characterized as anything intangible or tangible that the firm can use during these procedures (Wade and Holland 2004). Abilities would therefore be repeatable patterns of activities (Wade and Hulland 2004) or facilitated set of jobs (Helfat and Peteraf 2003); both are procedures that use resources as the input (Amit and Schoemaker 1993, Helfat and Peteraf 2003). Resources can be referred to as vital items that can be changed into organizational execution (Barney 1986, Wernerfelt 1984). The central supposition of the resource-based view is that organizations have heterogeneous arrangements of assets and abilities (Barney 1991); in certain settings, a firm that has a predominant asset other than its contenders, appreciates a supernormal benefit or a competitive benefit over their opponents (Barney 1986, Peteraf 1993). However, the competitive benefits that come from having this key resource does not ensure sustainable competitive benefits. Once the worth of the superior asset is uncovered, there is the possibility of contenders taking after the main organization and seeking a similar asset.

Furthermore, in the context of innovation processes, more knowledge is required about the role of QMPs to clarify intra-industry contrasts. Based on various resources accessible to them, RBV explains the contrasts in the performances of various organizations (Peteraf and Barney, 2003). This theory is associated with the workings of Barney (1991) and Wernefelt (1984). The theory addresses how firms in a competitive workplace can sustain and achieve a sustainable position by utilizing the resources accessible to them (Hoopes, Madsen, and Walker, 2003). The senior administration ought to equip workers with an obvious organizational mission, vision and assignments to be satisfied advancing instructions and promoting valuable management practices.

The QMPs, as part of best management practices, is much more significant to the success of the organization, and management should attempt to foster a widespread quality environment. QMPs are taken as a source of competition by most organizations, and various studies have illustrated this point, for instance Reed and Lemak (2000). This is consistent with the RBV, which suggests that maintaining and attaining a sustained advantageous competitive advantage requires accessibility to strategic assets that are diverse in nature, not imitable, not splendidly resourceful, and non-substitutable without great exertion (Barney, 1991). Non-imitable and unusual resources are linked to core competency and appropriate usage (Vivas-Lopez, 2005), as well as requiring the configuration of routines for organization in order to react better to the market's rapid and dynamic changes (Eisenhardt and Martin, 2000). Quality management involves a range of practices, for example, employee empowerment, investment in customer relations, and building efficient correspondence channels. This adds to the enhanced estimation of goods and services, which is gained through influencing the inimitability of the firm, the

strategic decision making process, and rare un-substitutable resources that are embodied in effective leadership, the capabilities of employees, relationships with customers, and improved operations, among others (Eisenhardt and Martin 2000).

It has been contended that the content component leads to competitive advantage, although a sustainable advantage can be obtained through process components. This complies with the RBV of the firm, and considers elements of TQM as either a source of cost leadership benefit, differentiation, or a barrier to imitating their intrinsic complexity (Corbett & Claridge, 2002).

A firm's competitive assets/resources are considered to be an **innovative strategy** resource influencing certain changes in the business environment and workplace, for example, through the growing significance of services, innovation, information technology development, globalization, the surge in academic property, and digitalization, another kind of economy has been formed. In this new market, valued creative capacity has moved from tangible resources to intangible resources, for example, inimitable organizational culture, innovation, corporate status, creativity, learning, brand and design (Carmeli and Tishler, 2004; Surroca et al., 2010; Kor and Mesko, 2013) .In the strategy literature, there is agreement among researchers that organizations with advanced systems show healthier execution over those who do not have these strategies (O'Regan and Ghobadian 2005; Terziovski, 2010). A few theorists (e.g., Benner and Tushman, 2003; Camison-Zornoza et al., 2004) propose that the level of cost effectiveness in firms can be enhanced by functionally specialized innovative strategies. In addition, learning abilities that can emerge from close working relations with clients,

suppliers, and merchants give a firm access to new innovations and thoughts that can prompt favorable circumstances over its competitors (Kogut, 2000; Lavie,et al 2012).

For this research, by applying resource-based view theory, it is important to explore how innovative internal resources with QMPs can be subjected to a competitive system and permit an organization's abilities to improve the performance of innovation (Galbreath 2005). An efficient innovative strategy ought to guarantee the productive resources and technological abilities of an organization's deployment, and requires resources to accomplish the organizational objectives (Zahra and Covin, 1993). Specifically, it should contributive towards better execution and sustainable competitive benefit. An organization's innovation system is a dynamic and vulnerable idea (e.g. Lynn and Akgun, 1998). Cooper (Cooper, 1984; Cooper, 1985; Cooper, 1986; Cooper & Kleinschmidt 1987) has reliably contended that an innovation system impacts on the firm's implementation. Conversely, a few researchers discovered that QMPs are constant with innovation techniques, and so it can be concluded that quality management can be improved through innovation performance with the application of the right innovation techniques by making best use of the organization's assets.

Quality of culture is a unique characteristic of organizational culture that can influence innovation performance (Itami and Roehl, 1987). O'Regan et al. (2005) view organizational culture as standing amongst the most well-known hindrances to the implementation of innovation. In addition, Terziovski (2010, p. 895) explains the importance of the ability of organization "to redesign their work procedures or QMPs consistently by exploiting sophisticated technology and such constant improved strategies

as QMPs and got acceptance for being creative.". Moreover, the possible effect that every single construct would have on the performance of innovation is described as a strategy in the literature.

From a **strategic management** point of view, the RBV of the organization depicts associations as accumulations of diverse resources and strategies. The term RBV for the firm was proposed by Wernerfelt (1984) and expands upon prior work (Learned, Christensen, Andrews, and Guth, 1969; Penrose, 1959). The resource-based view is generally and progressively utilized as a part of the IS domain to clarify how data frameworks are associated with the strategy and execution of a firm (Wade and Hulland, 2004). With regards to the resource-based view, a firm is an accumulation of resources, abilities, or resources.

Nevertheless, Lippman and Rumelt (2003) emphasize the significance of **process management** as sort of research, and propose that "the core business system concerns the manipulation, creation, deployment of specialized resource combination, and administration" (p. 1085), and a lot of resource-based view research studies should be carried out in various settings and nations. Moreover, this research is expected to obtain important knowledge in regard to the factors that have an impact on the innovation performances of organizations. Concerning management studies, resource-based view theory has been developed as one of the theoretical perspectives used to clarify consistency and any performance contrasts (Barney and Griffin 1992). As indicated by resource-based views theory, organizations have a collection of exceptional resources and

abilities that are important, incomparable, uncommon, with no substitute, and which can equip them with a sustainable competitive benefit.

It has been contended that if the **customers' focus** of interest is resources, then organizations are completely equipped to refine, change and update their goods during innovations (Pitelis, 2004; Garengo and Bernardi, 2007). Moreover, it is likewise suggested that organizations can coordinate their expertise and their goods, and during innovation, new goods are produced (Collis, 1991; Knight and Cavusgil, 2004; Alegre, Sengupta and Lapiedra, 2013). As a result, when organizations take part in activities involving innovation, researchers posit that they could adequately accomplish two outputs. Firstly, there could be a number of exclusively profitable items/goods, making it possible for organizations to provide a better service to their clients (Tallman, 1991; Autio et al, 2000; Pla-Barber and Alegre, 2007). Secondly, it is thought that a collection of unusual, important and imitable information, including tacit, can upgrade the organizational capacity to modify items (Hitt, Ireland and Hoskisson, 1999; Autio et al, 2000). In line with the previous outcomes, researchers have proposed that organizations can then accomplish a particular level of innovative execution. Concerning the latter outcomes, researchers have contended that organizations could encounter progress in their organizational abilities, driving them to obtain better skills and embedded schedules. Thus, innovation would lead organizations to additional competitive benefits, driving them to unite their market position and ensure prevalent innovation execution (Poonand MacPherson, 2005; Garengo and Giovanni Bernardi, 2007; Eriksson, Nummela and Saarenketo, 2013).

Functional of role the **Quality department:** this features one of various important confrontations which test the transferability of a resource-based view to quality improvement. A quality improvement proposal is represented in national projects, for example, the Institute for Health Improvement (US), 1000 Lives+ (Wales), Healthcare Improvement. In applying a resource-based view of the assessment of better quality, attention should focus on the scope of resources that are important to the conditions for progress. The recognizable impact of context, points towards the potential of these resources to be conveyed imperfectly in the focal principle of a resource-based view. The change complexity related to the effects of quality improvement focuses on the potential for VRIN resource formation. On the other hand, the process with which these resources are produced, and more significantly connected, warrants advanced assessment inside the field of healthcare quality change.

As per a resource-based view, **continuous improvement** in an organization ought to involve observing its internal assets rather than focusing on competitive settings. Continuous progress and resource-based views share a common characteristic that exists inside the assets and abilities, which are limited, and in this way, those organizations that survive, will tend to utilize these assets in a financially confident way. This can be accomplished by maintaining the most favorable levels, which will thus create competitive benefits. Eventually, for organizations to have a unique competitive benefit, they need abilities, which can create esteem, although this may be oppressed by the organization (Attaran and Attaran, 2004). RBV contends that for firms to become dominant, they need a collection of assets and abilities that are uncommon, important, and hard to reproduce (Barney, 1991). Continuous improvement is also a central point of

reasoning, concentrating on assets that are diverse in nature and that individuals can utilize more successfully and resourcefully; moreover, specific organizational issues can be solved through modified solutions and can support an organization with better than expected returns (Valiris, 2004).

If an organization possesses an asset that is also possessed by its opponents (no heterogeneity), this asset cannot add to its competitive benefit. Heterogeneity is the necessary condition for attaining at least short term competitive benefits. Asset's **data and analysis** is the required condition for supported competitive benefit, since contenders would confront any cost disadvantage in acquiring, creating, and utilizing it, in contrast with the firm that already has it. Several researchers have embraced an asset based perception to address the issue of the contribution of information and analysis to business worth (Wade and Hulland, 2004; Melville et al., 2004). In their research, information and analysis assets have been conceptualized in a range of designs. In a literature review of the RBV in information and analysis research, Wade and Hulland (2004) have recognized eight such information and analysis assets, which fall into three primary classifications.

These adaptable techniques for operating HR have gained support in various economies around the globe, for instance, the Asian Tigers (China, Hon Kong, Thailand, Singapore). Although it is obvious that training and academic knowledge is worthy in its own right, with the expanding levels of education, financial development has grown, through both participation impact and the impact of productivity, with the first being especially essential (Karmel, et al 2014). In other research, Khattak (2012) favored the view that education and training contribute towards monetary development, which suggests that

countries and governments should keep education at the top of the agenda, as **higher education** can produce highly skilled labor for the development of nations. Also, scientific discoveries provoke current progression, specifically through a scholarly frame of mind, and give a fantastic picture of colleges adding to financial progression (Hatakenaka, 2015). Additionally, in developing economies, education has become the first priority and many countries are endeavoring to shape partnerships with world-renowned educational institutions (Luxbacher, 2013).

A main point of the resource-based view is **employee involvement** in core capabilities as vital resources which would be the proceeding with source of new services and items through whatever future improvements may occur in the market, which by their inclination, are unknown-able. The Resource Based View (RBV) of the firm as discussed by Barney, (1991), Huselid, et al.,(1997) and Lepak and Snell, (1999) amongst many other scholars, assumes that sustainable competitive advantage in organizations can be obtained by exploiting the organization's internal strengths and external opportunities, whilst minimizing its internal weaknesses and the effects of external threats As a result, it proposes strongly the truth of equifinality. Accordingly, if managers can gain from the theory that there is no absolutely ideal approach to progress, then this may turn out to be an advantage. It is this point that most likely exemplifies the fundamental paradox that seems to lie at the core of the resource-based view. The theory depicts productive firms. Unsuccessful firms are, by definition, not equipped with key resources, and managers in them presumably do not know how to utilize the distinct experiences of the resource-based view in a creative and innovative way. The organization's employee involvement is therefore regarded as a key source of its competitive advantage as they add value, are rare

in the marketplace, hard or impossible to imitate and cannot easily be substituted. Thus, flexibility in the deployment of a strategy for employee involvement has been proffered as a way of sustaining organizational efficiency and effectiveness in the face of a challenging operational environment (Brewster, 2004; Huselid, et al., 1997; Lepak and Snell, 1999).

2.16.2 Contingency Theory

This theory argues that leaders must have the education necessary to manage the organization. This leader-match theory (i.e. *contingency theory,* Fiedler, 1967) is the most popular theory around. This theory recommends that a viable or effective leader ought to have the ability to change his leadership approach in view of the specific circumstances. The contingency approach expects that the viability of a leader's identity, conduct and style is dependent upon the necessities of the circumstances, and the contingency model posits that the situational factors and individual styles should be consolidated to decide leadership roles; an appropriate match between styles and circumstances is necessary. Deciding on these issues would enable management to hire the most appropriate leader for achieving success in the right place at the perfect time. Transformational employers do not agree on the current state, but explain an engaging and demanding future vision. Transformational leaders also exhibit creative behavior, are unconventional, and can act as a role model for innovation (Howell and Higgins, 1990). By providing intellectual motivation, leaders of transformation may likewise support followers to think "fresh" (Jung,Chow, and Wu, 2003) and adopt an explorative philosophical style. Hence, we have expanded on West's theoretical and observational work, in which he proposed and examined only the important aspects of support for innovation and the environment

required for positive group development (Burningham and West, 1995; West and Anderchild, 1996; West et al., 2003).

The advantages of contingency theory have been recognized far and wide. It is a trustworthy procedure for deciding the most reasonable leadership style. This theory has likewise been useful in determining the effect that specific circumstances can have when a leader/employer can or cannot deal with the circumstances. On the other hand, this theory has certain drawbacks. It fails to explain why leaders are successful in one workplace yet unsuccessful in another. Furthermore, the LPC has not been established to be a suitable scale in some other leadership measures utilized by different researchers (Fiedler and Chemers, 1974). Keeping in mind the drawbacks of the previously discussed theories, there is clearly a need for more evaluation of theories in order to introduce a range of new leadership theories.

The need to link TQM to the organization's methodology is upheld by contingency theory. This can be grouped into two schools of consideration, which may described as QMPs as a widespread set of practices, and QMPs as contingency based practices. The general approach to QMPs advocates that quality practices are generally appropriate to all situations. This approach gained popularity through the noticeable fame of Japanese management frameworks, to best work on benchmarking and quality practices. It is assumed that the selection of best (world class) practices prompts predominant execution and abilities (Voss, 1995).

This model concentrates on the consistent advancement of best practice in every single area of an organization and is supported by Harry and Schroeder (2000), and Samson and

Terziovski (1999), who demonstrated the connection between best practice and enhanced execution. Transformational leadership (from this point forward, TFL) is a key indicator for organizational advancement (Mumford et al., 2002). Probable mediators amongst innovation and transformational leadership have been recognized, including mental strength, perceived innovation support (Gumusluoglu and Ilsev, 2009; Jung et al., 2008), organizational learning (García-Morales et al., 2012), and assets and strategies (Oke et al., 2009).

Leadership is a significant human capital asset that considerably effects organizational tasks (Wright et al., 2001), yet it does not happen in isolation (O'Reilly et al., 2010). Rather, leadership can be embedded in the seldom inspected relational context (Bono and Anderson, 2005; Zhang and Peterson, 2011). Social capital theory recommends that social relations among organizational individuals and with outside organizations, provide indispensable assets, for example, counseling, social help, information and companionship (Burt, 1997)- all fundamental preconditions for developing understanding, information sharing, innovation, and risk taking (Zhang and Peterson, 2011).

Consequently, leaders can handle and impact on an essential element of organizational assets through social capital (Hitt and Ireland, 2002); however, only a few studies have addressed some of the impacts of transformational leadership on social capital (Bono and Anderson, 2005). While social capital assumes a crucial part in improving innovation (Eklinder-Frick et al., 2014), both social capital and leadership research has failed to

thoroughly examine how transformational pioneers have used social funding to encourage innovation.

Thus, this research investigates transformational authority relationships with external elements to bring about quality, innovative, and conceivable outcomes. In the present research, both the gaps in inspection and the literature on how transformational pioneers promote innovation by managing assets that are embedded in social relationships among organizational individuals are examined. The focus is on more elite classes (CEOs and their best management groups; henceforth, in light of the fact that they have a definitive obligation to make strategic decisions, create organizational cultures, and set strategic directions that cultivate or hinder innovation (Kang et al., 2015). Thus, this research investigates transformational associations with exterior bodies for bringing about quality and innovatively conceivable outcomes.

2.17 Conclusion

This chapter has reviewed the literature on the main topics involved in the current study. The chapter has shown the importance of the healthcare sector in Saudi Arabia, and has illustrated the main indicators of its significance. The chapter has also explained and reviewed QM topics. Topics that link between QM and quality culture, innovation strategy and transformational leadership have been presented and analyzed. Then, an extensive review of innovation related topics has been presented in terms of discussion and explanation. The trends concerning the relationship between QMPs and innovation have been explained based on the findings in the current literature.

CHAPTER THREE

CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter develops the conceptual framework based on the literature review and theories in the previous chapter. Figure 3.1 illustrates the process of developing the conceptual framework. The process starts with a discussion on innovation and its types, the studies on QMPs, and the relationship between QMPs and innovation. The next section explains the framework of innovation strategy, quality culture, and transformational leadership. The related hypotheses are developed with each part.

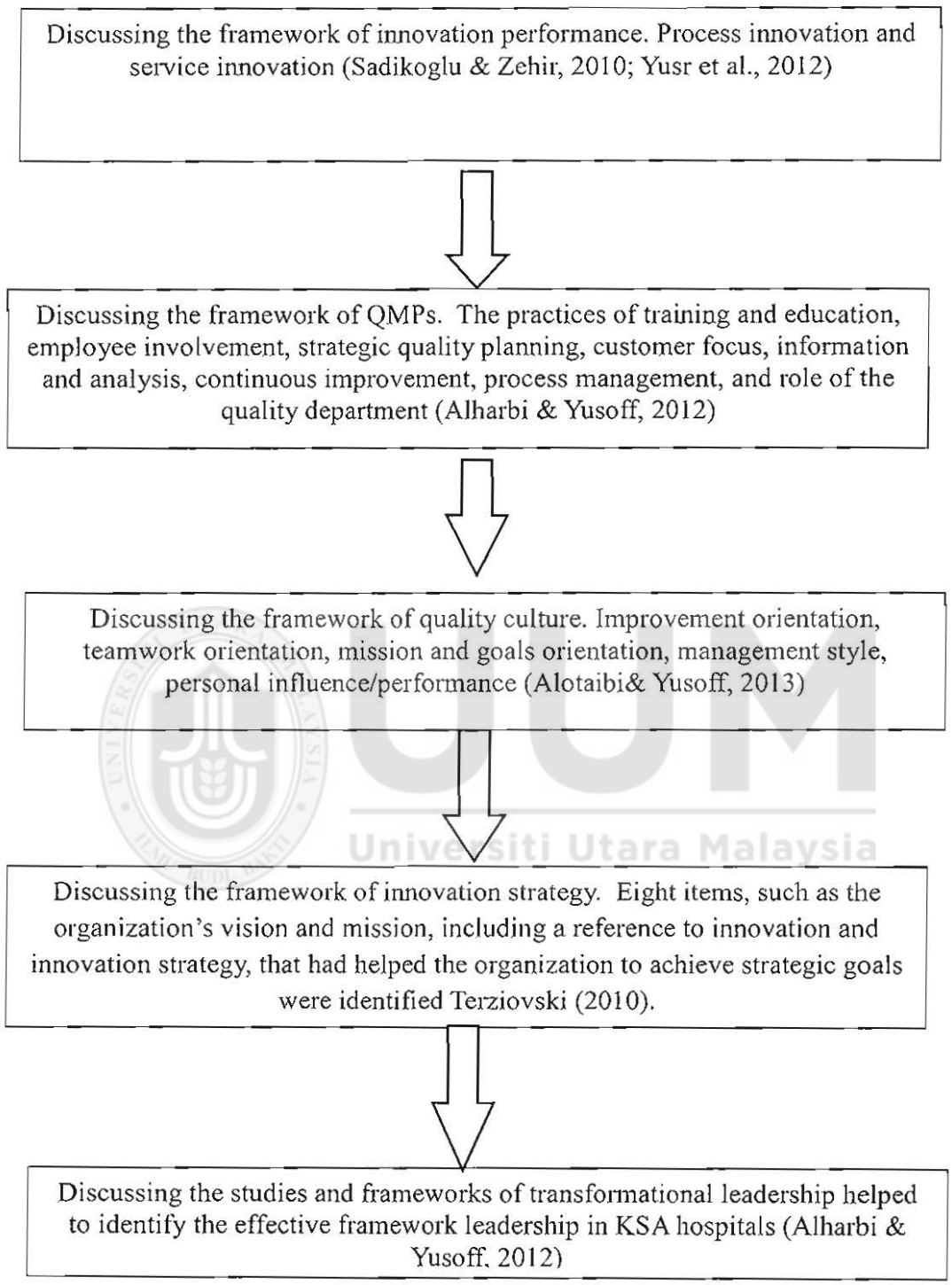

Figure 3.1
Developing the conceptual framework

3.2 Types of innovation

Based on the literature review on the typologies of innovation, especially the studies concerned with the relationship between QM and innovation, most typology frameworks are related to one of two main types: technological innovation and non-technological innovation. However, the reviewed literature showed the typology of product/service innovation, and process innovation is used in numerous studies that examined innovation performance (Ooi, Lin, Teh, & Chong, 2012; Sadikoglu & Zehir, 2010; Yusr et al., 2012). Administrative innovation was added (Herrmann, Gassmann, & Eisert, 2007; Kim et al., 2012). Product innovation and process innovation are usually sorted under technological innovation, and administrative innovation is usually non-technological innovation.

Some scholars argued that administrative innovation is a process innovation. Their argument is supported by the definition that process innovation focuses on improving the effectiveness and efficiencies of production, products, and service. The argument is also supported by the perspective that administrative innovation is associated with the internal process (Tarafdar & Gordon, 2007). Sadikoglu and Zehir (2010) and Yusr et al. (2012) used the framework of process innovation and product/service innovation to examine innovation performance. They used measurement items that focused mainly on measuring the level of the newness of a process and product/service, the number of newly introduced process and products/service, and the flexibility of the organization in introducing innovation. Therefore, the present study considered the framework of process innovation and product/service innovation to measure innovation performance in hospitals in the KSA.

3.3 QMPs and innovation performance

The relationship between QM and innovation is complex because of the multidimensional approach of QM to the different typologies of innovation (Bon & Mustafa, 2013; Krivokapic et al., 2013). Theoretical and empirical studies indicated the positive relationship between QMSs and innovation in the different types of organizations (Al-Refaie, Ghnaimat, & Ko, 2011; Fernandese et al., 2014; Gotzamani & Gkana, 2015; Kafetzopoulos et al., 2015; Long et al., 2015; Mustafa & Bon, 2012; Schniederjans & Schniederjans, 2015). QMSs help innovation through the outcomes of implementing and practicing the main QM principles, such as human resource management focus, continuous improvement, and customer focus (Krivokapic et al., 2013; Sadikoglu & Zehir, 2010). Empirical studies supported this trend by proving the positive influence of QMPs and TQM on innovation. When examining the impact of QMS practices, such as practices of TQM, studies showed the different types of practices based on the study's approach. However, based on the literature review, the common conclusion between most of those studies is the positive relationship between QMPs and innovation. QMPs, such as continuous improvement, process management, people management, and customer focus, were frequently identified based on their impact on innovation.

QMPs in the healthcare system of the KSA have been examined for their impact on different organizational functions (Alharbi & Yusoff, 2012; Almalki et al., 2011). Alharbi and Yusoff (2012) mentioned that the practices of the role of the quality department, process management, continuous improvement, information and analysis, customer focus, strategic quality planning, employee involvement, and training and education are used in KSA hospitals. Alharbi and Yusoff did not include leadership as QM practices in

the framework which is suitable with the model of the current study. Those practices are based on the main QMPs framework of Deming. They are proven to have an impact on hospital management functions, such as leadership and culture. The theoretical approach of the impact of QMPs on innovation QMPs in hospitals in the KSA was used to examine their impact on innovation performance. Thus, the following hypotheses were developed to test whether the objectives of the study were achieved.

H1: *QMPs have a positive impact on innovation performance at hospitals in the KSA.*

Unlike the original set of practices proposed by Saraph et al.(1989) The set of QM practices in this study includes one practice: the role of the quality department. The literature review shows that many organizations do not have a separate quality department (Kaynak, 2003). Although there was no significant and direct relationship between quality data and reporting and innovation however quality data and reporting had a significant direct and indirect relationship with process management. It can be interpreted that through process management, quality data and reporting indirectly result in innovation. It Is also noted that role quality department in presenting and formatting quality data and reporting is indirectly associated with innovation, although not directly related to innovation.

H1a: *The role of the quality department has a positive impact on innovation performance at hospitals in the KSA.*

On focusing the process management, many enterprises noticed that if they enhance their decision making and performance, there is clear shift in their financial orientation (Silva et al., 2012; Sanchez-Ruiz et al., 2016). From the past studies, it is suggested that innovation performance has a very good and significant relationship with the quality management practices of process management. The study conducted by Arostegui and Sousa, (2013) on Portuguese companies, conclude that innovation performance is directly influenced by the process management. Moreover Sadikoglu & C Zehir, (2010) found constant results with prior findings, which recommended the parallel relation between process management and innovation performance. Kim, Kumar & Kumar, (2012) study stressing that, innovation performance of employees directly and indirectly effected by process management.

H1b: *Process management has a positive impact on innovation performance at hospitals in the KSA.*

In this regard, especially attention is needed for Continuous improvement process in which have to outline the potential weaknesses and improvement in the betterment of organizational performance (Anand et al., 2009). There is rare literature found related to the quality management practices and innovation performance, from that it is examined that continuous improvement and innovation performance variables are interrelated. Sadikoglu & Zehir, (2010) highlight that if there is continues improvement practices in any organization, either in the form of training or development, it helps to increase and boost the motivation of the employees to innovate new products and give best services

for the organization. Furthermore, the study claimed that innovation performance leads the continues improvement of the organization.

H1c: *Continuous improvement has a positive impact on innovation performance at hospitals in the KSA.*

In the arena of system performance, Wilson and Collier (2000) have stated that information and analysis are the key components, for customer satisfaction they predicted the significance of process management as key to success. In the several past studies, the conclusion obtained was the importance of information and analysis. On the same pattern, Arostegui and Sousa, (2013) conducted the study and claimed that innovation performance is positively and significantly affected by information and analysis. In the same way, to enhance the employee's ability and capability for the better innovation in products and services the right information and analiysis is play a vital role in the progress pf organization. Sadikoglu & Zehir, (2010), have the same opinions and suggestion that from the findings gathered by the previous researcher is, quality management practices and special information and analysis put the positive effect on the capability of employee's innovation behavior and they also found positive relation between two variables.

H1d: *Information and analysis has a positive impact on innovation performance at hospitals in the KSA.*

According to the study of Shiles and Choi (2000), to enrich organizational learning, if the major focus will apply on customers and working on turbulent business environments, it

will actively help the organization. To get this purpose, must give attention to focus on customer needs, desires and expectations, so that, employees get to familiar with tactics that how to produce better service and satisfaction (Ruiz-Moreno et al., 2005). Though, from the past literature it is analyzed that customer focus and customer concentration management practices gave vast area to produce literature on it, but the studies that focused the areas of customer focus and innovation performance were given less privilege (Prajogo & Sohal ,2004). In the scarce literature, on the perspective of customer side there is very limited amount of studies that highlight the issues of innovation performance. According to the study conducted by the Arostegui and Sousa, (2013) they suggested that to meet the changes of market segmentations and environment, it is necessary for the organization to put their focus on quality management practices of customer. They concluded that to achieve the organization goals and performance the important and necessary element is customer focus, which resulted to observed positive and significant relation between the variables. This opinion were also endorsed by the Sadikoglu & Zehir,(2010) and Kim, Kumar & Kumar, (2012) they found the significance relation between the customer relation and innovation performance.

H1e: *Customer focus has a positive impact on innovation performance at hospitals in the KSA.*

In the industrial sector, according to the studies, there is also the need of the major implications of strategic management (Andersen & Bettis, 2015; Andersen, Denrell, and Bettis, 2007; Bowman, 1980; Bromiley, 1991; Henkel, 2009; Miller & Leiblein, 1996; Wiggins and Ruefli, 2002). In quality of management practices, the assimilate part

contain the strategic management and planning. For any organization, following dimension of quality management practices consider important: the strategic depth, alliance and strategic analysis's, strategic shift and strategic paradigm. Following the studies, the consistent relationship between the strategic management and innovation are found. (Feng et al. 2006; Hoang et al. 2006; Prajogo & Hong, 2008; Sila & Ebrahimpour 2005). However, there are limited studies related toward the strategic management and innovation performance. The Arostegui and Sousa, (2013) found the positive relation between the strategic planning and innovation performance.

H1f: *Strategic management has a positive impact on innovation performance at hospitals in the KSA.*

In the past scholarly work, organizational performance is pertaining and indicated towards the prominent role of business strategies: fostering employee's motivation, enhancing the products and services; reducing higher costs and employee's turnover and similar furthering work operations (Boxall & Macky, 2014; Mohrman, & Ledford, 1995). In any management practices, the important agenda was always the employee involvement in the process of organization values and belief. Employee involvement were considered to be necessary and important element in the background of quality management practices. According to the studies, they found positive and significant relationship between the employees involvement and innovation and performance (Prajogo & Sohal ,2004 Mazzanti et al., 2006; Feng et al. ,2006).

H1g: *Employee involvement has a positive impact on innovation performance at hospitals in the KSA.*

Training and development amongst the employees in this regard is also very important feature because it gives help to facilitate skills and knowledge paradigms (Franco, Bennett, & Kanfer, 2002). Especially in the healthcare industry, based on prospects and approaches on several works, the important element to handle and understand is the organizational strategy and commitment (Shumaila et al., 2012). Quality management practices according to many studies examined several exogenous variables: employee performance, Rungtusanatham et al. (1998) customer satisfaction Anderson et al. (1995) and project performance Shieh and Wu (2002) – etc. For career growth and apprising of employees in any organization, the important elements are considered to be training and development in management practices. From the past studies, the relationship between the training, development and innovation performance were explored in the quality management practices. According to the study of Sadikoglu & Zehir, (2010) training and development and innovation performance of employees were found mutually exclusive and positive relationship. In addition, this findings recommending that to produce better innovative products and services employees training and development provide a better ground (Martinez-Costa & Martinez-Lorente (2008).

H1h: *Training and education has a positive impact on innovation performance at hospitals in the KSA*

3.4 Quality culture mediates between QMPs and innovation performance

The QM is linked to culture as it is viewed as a culture (Kanji & Yui, 1997, as cited in Mosadeghrad, 2013). Quality of Culture is one of the most important elements that affect the organizational process in healthcare organizations. It is argued that QMPs should be

consistent with the culture of the organization, especially in service organizations (Al-swidi & Mahmod, 2011; Juneja et al., 2011). Specifically, if organization contains good values and tradition which is contemporary part of culture individuals are employees capable to perform job at utmost level. Some scholars have asserted that QMPs of management creates good environment for work and provides better culture within organizations (Talib et al., 2011). However, one of the common difficulties of QM implementation in healthcare organizations is creating and supporting culture (Mosadeghrad, 2013). Therefore, creating and supporting a proper culture, specifically quality culture, is crucial for the successful QM implementation in the healthcare sector.

TQM practices helps management to create quality of culture of an organization through the influence of its practices (Santos-Vijande & Álvarez-, 2007). Some examples are as follows: (i) The process management practices of TQM influence culture by regulating and arranging procedures and orders in a coherent system (Yusr et al., 2014). (ii) Service culture is embedded in the TQM practices (Arshad & Su, 2015), and the leadership practices of TQM have to develop and support culture by following a leadership style (Sadikoglu & Zehir, 2010; Ooi et al., 2012; Plekhanova, Smith, & Hamdan, 2012). (iii) Employee empowerment and the involvement practices of TQM support culture by motivating the employees and developing a sense of commitment toward organizational goals (Sadikoglu & Zehir, 2010; Ooi et al., 2012).

TQM as an example of QMS has an impact on organizational change, especially cultural change. TQM can fail when TQM and cultural change do not integrate (Cameron & Quinn, 2006). TQM creates a cumulative culture of quality in the organization (Roldán et

al., 2012). The cumulative culture is a proficient culture that is developed and verified by practical events and actions. From the perspective of service organizations, such as healthcare organizations, soft QMPs have a significant impact on developing a quality service culture as the main element that characterizes the whole culture of the service organization (Hoang et al., 2010; Talib et al., 2011). To sum up, this is vented that TQM principles and practices converting into the organizational culture basic, where the set of values, rules, believes, hypothesis and ways to do defining culture would be shared by people from a social group. Since, as Lopez (1994) states, in such a context as the innovation one, these practices of quality management effect of employee to innovate high class performance such human factor means practically everything, work is among people, with people and for people to the organization.

Based on this discussion, the following hypothesis was developed.

H2: *Quality culture mediates the relationship between QMPs and innovation performance in hospitals in the KSA.*

3.5 Innovation strategy mediates between QMPs and innovation performance

To create and maintain a competitive advantage, organizations have to develop an culture, and an innovation-oriented strategy leads the path to high innovation performance. Naranjo-Valencia et al. (2011) argue that, from the perspective of organizational strategy, an innovation strategy can link the culture of an organization to its innovation. For instance, in organizations that use QM, leaders that follow a radical innovation strategy should create a developmental culture that supports the radical innovation strategy in their organizations (Büschgens et al., 2013).

Innovation strategy is one of the main elements for achieving a strong competitive advantage (Crossan & Apaydin, 2010). QMPs affect the creation of a quality culture and innovation focus orientation through their impact on innovation performance. Therefore, many theoretical frameworks that have been extensively followed in the study on the impact of QMPs on innovation have recommended that the QM system be applied as the main strategy in organizations (Dean & Bowen, 1995). On the basis of this theoretical approach, the following hypothesis was developed.

H3: *Innovation strategy mediates the relationship between QMPs and innovation performance.*

3.6 Transformational leadership moderates between QMPs and innovation performance

The results confirm that the existence of this kind of leadership–combining features of transformational, along with elements of effective customer focus, employee involvement, motivation and communications antecedent to the QMPs of creation, transfer, storage, and application (Donate & de Pablo, 2015). Additionally, effect on the transformational leadership's strong impact on QMPs. These initiatives mainly relate to experimentation through internal R&D and shifts in current technological trajectories (Gupta, Smith, & Shalley, 2006). In this regard, a transformational leadership position forces the firm to embark on substantial investment and development initiatives to generate new knowledge. This kind of organizational leadership leads the firm's employees to believe that knowledge creation, via R&D support, is essential for organizational development and competitive advantage (Nonaka & Takeuchi, 2011).

Transformational leaders may champion creative ideas, act as role models (Howell and Higgins1990), and stimulate team members' motivation (Mumford, Scott, Gaddis & Strange, 2002). Recently, researchers have assessed Transformational leader's outcomes in the context of CEOs. For example, García-Morales et al. (2008) found a positive relationship between Transformational leaders and innovation based on CEOs of large Spanish firms who were asked to compare the general level of Transformational leaders in their organizations with that in other organizations.

Various leadership styles are practiced. The theory of Bass (1985) on transformational leadership styles is the most common theory of leadership. The theory is comprehensive for all leaderships in all organizational types, and it has been the basis of many frameworks developed to link leadership styles and QM (Alharbi & Yusoff, 2012; Latham, 2014). Based on Deming's theory and QMPs, Alharbi and Yusoff (2012) found that only transformational leadership is positively associated with QM in hospitals in the KSA. From the QM view, the theoretical studies are rich with such arguments (Dean & Bowen, 1995; Lakshman, 2006). The moderating variable is the variable that has a strong contingent effect on the relationship between the independent and dependent variables (Sekaran, 2003), and two mediators in the present study were conceptualized from literature. Therefore, the framework of leadership in hospitals in the KSA was used in the framework of this study to conceptualize the moderating variable transformational leadership. The moderating role of leadership has been used in different studies that examined different organizational outcomes. For example, the moderating role of

transformational leadership was used in Malik and Farooqi (2013) and Kumako and Asumeng (2013). Thus, in this study will utilize transformational leadership to be presented leadership that focus on quality in KSA hospitals.

H4: *Transformational leadership moderates the relationship between QMPs and innovation.*

3.7 Conceptual Framework

From the preceding discussion and the hypotheses developed on the relationship among QMPs, quality culture, innovation strategy, transformational leadership, and innovation performance, the following graphical framework is developed. The framework shows the relationships in terms of rows. The relationships are as follows: direct relationship from the independent variable, QMPs, and the dependent variable, innovation performance; indirect relationship between the independent variable and the dependent variable through the mediating variables quality culture and innovation strategy; and relationship from the moderating variable transformational leadership. Figure 3.2 shows the framework model of this study.

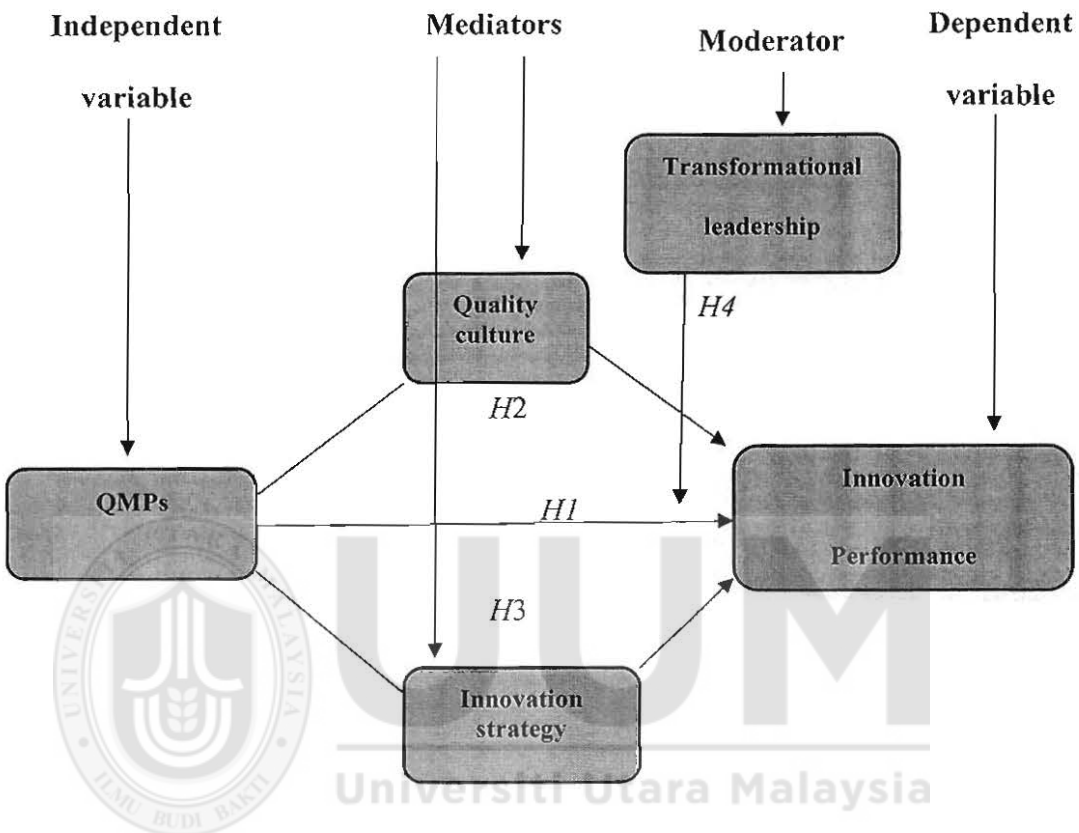

Figure 3.2
Conceptual framework

The framework is underpinned by the RBV and contingency theories. The direct relationship between the quality management practices and innovation performance are based on the RBV theory. On the basis of the RBV theory, quality managemnt practices are intingible resources of an organization that can be utilized effeciently to ensure high innovative performance (Wade and Holland 2004). Similarly, the mediating roles of quality culture and innovation strategy are underpinned bt the RBV theory. Consistent with the theory, quality culture and innovation strategy are also intigible resources

through which quality management practices can transform into high innovation performance. In other words, maitaining and attaining sustainable competative advantage require diverse strategic asstes (Barney, 1991), such as quality culture and innovation strategy, that would serves as condiuts to materilize quality management practices into innovation performance in organizations.

For the moderating role of tranformational leadership, contingency theory is used to support this connection. Thus, it is expected that when the leader of an organization posseses the ability to consider the circumstances around in leading this would strenthghen the quality management practices achieve highe innovative performance. Also, transformational leaders exhibit creative behavior giving the current happenings, and act in the right direction to attain high performance (Howell and Higgins, 1990).

3.8 Conclusion

This chapter developed the conceptual framework of this study, which draws from the theoretical bases in literature. Theoretical and empirical studies on QMPs were conceptualized for QMPs in hospitals from the perspective of their influence on innovation. Quality culture and innovation strategy were discussed from the perspective of QMPs to explain their role as mediating variables in the conceptual framework. Transformational leadership was discussed for the role of moderating variable. Finally, the hypotheses of the study were developed and shown in a graphical conceptual framework with the different variables.

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

This chapter shows the research design and methodology to achieve the objectives of this study, which are (i) to examine the impact of QMPs (the role of the quality department, process management, continuous improvement, information and analysis, customer focus, strategic quality planning, employee involvement, and training and education) on innovation performance in hospitals in the KSA; (ii) to examine the mediating role of quality culture in the relationship between QMPs and innovation performance in hospitals in the KSA; (iii) to examine the mediating role of innovation strategy between QMPs and innovation performance in hospitals in the KSA; and (v) to examine the moderating role of transformational leadership in the relationship between QMPs and innovation performance in hospitals in the KSA. Moreover, it covers the issues of population, sampling, instrumentation, data collection, and data analysis.

4.2 Research design

Zikmund (2003) defined the research design as a master sketch showing the procedures for data collection and data analysis. The research design explains how the research is conducted to achieve the objectives. It describes the procedures of data collection, the procedures of measurement, and the steps of analysis. The research design likewise helps researchers in using the accepted methodology (Cooper & Schindler, 2008).

Based on nature of the study which aims at examining the relationships among the five constructs QMPs, quality culture, innovation strategy, transformational leadership, and innovation performance, it utilizes a descriptive and hypothesis testing approach with cross-sectional survey. This research design follows the deductive approach, which is suitable with quantitative analysis. Moreover, this research design is effective in analyzing cross-sectional studies with numerical measurements and analysis methods (Zikmund, 2003). It is also appropriate for empirically achieving the objectives (Cooper & Schindler, 2008). The quantitative method generates statistical evidence that explains the relationships between variables (Creswell, 2012; Saunders, Lewis, & Thornhill, 2009). It has been used in many empirical studies related to the field of the current study (e.g., Hogan & Coote 2014; Naranjo-Valencia, 2011; Kim et al., 2012) Thus, the quantitative method is appropriate in this study (Saunders et al., 2009).

The survey research method is common in social science, business, and management research. Survey research is usually conducted with a deductive approach (Saunders et al., 2009). It is used in the current study for various reasons. First, this study follows a deductive design approach. The deductive design involves developing the theoretical and conceptual frameworks, hypothesizing relationships, and testing the hypotheses to verify the theoretical framework. Second, questionnaires usually have clear information to obtain (Saunders et al., 2009). Third, the questionnaires enable researchers to effectively obtain a large amount of data from a diversified sample at low cost (Denscombe, 2010). Fourth, the responses obtained from the questionnaires are easy to explain and evaluate. Fifth, the questionnaires are helpful in clearing the causality among variables (Denscombe, 2010). In this study, examining relationships among QMPs, quality culture,

innovation strategy, transformational leadership, and innovation performance is a causality approach.

Survey methods have many disadvantages. For example, the validity and reliability of questionnaires are sometimes questionable. Moreover, questionnaires do not enable researchers to thoroughly explore views on relationships because they lack in-depth information (Denscombe, 2010; Sekaran, 2000). Questionnaires also do not regulate participants' truthfulness (Saunders et al., 2009).

A paper-based self-administered questionnaire method was used to collect data (Saunders et al., 2009). The questionnaire included six main parts. The first part addresses the demographic information of the hospital and the participant, the second part measures QMPs, the third part measures quality culture, the fourth part measures transformational leadership, the fifth part measures innovation strategy, and the last part measures innovation performance.

The data analysis process has two stages. The Statistical Package for the Social Sciences (SPSS) for Windows was used in the first stage. Structural equation modeling (SEM) was applied in the second stage. SPSS was used to run the preliminary analysis of testing reliability, data screening and cleaning, checking missing values and outliers, and obtaining the descriptive statistics. SEM was used to apply the measurement model assessment technique to ensure the reliability and validity of the constructs of the proposed model, as well as to test the hypothesized relationships (Hair, Black, Babin, & Anderson, 2010)

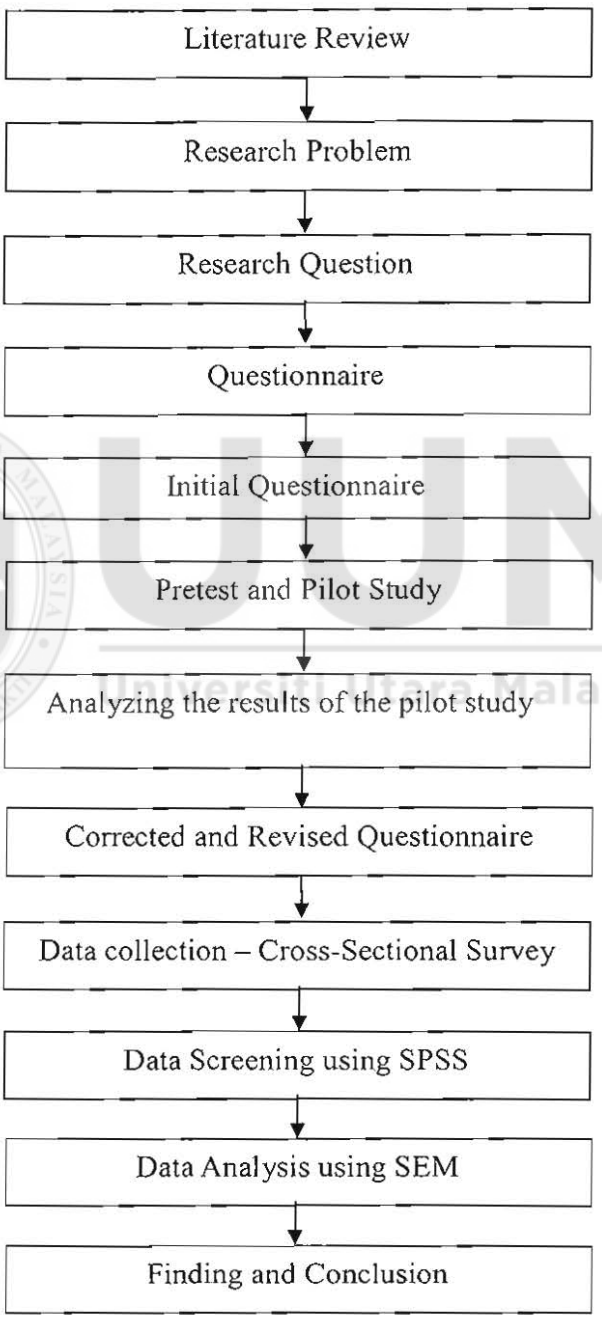

Figure 4.1
Process of the research

4.3 Population

The unit of analysis in this study is organization. Hospitals operating under MOH in the KSA are the organizational units. The term "population" is defined as those people who answer the questionnaires (Saunders et al., 2009). The current study aims to investigate the relationships among QMPs, quality culture, innovation strategy, transformational leadership, and innovation performance. As shown in Table 4.1, the total number of all public hospitals in all KSA states is 268. Of the 268 hospitals, 211 are general hospitals, whereas the rest are specialized hospitals. Within MOH hospitals, the directors are considered the respondents for the questionnaires.

	MOH hospitals		
State	**General hospitals**	**Specialized hospitals**	**Total**
Riyadh	37	10	47
Makkah	9	1	10
Jeddah	8	5	13
Ta`if	11	3	14
Medinah	16	4	20
Qaseem	15	3	18
Eastern	15	3	18
Al-Ahsa	5	4	9
Hafr Al-Baten	4	3	7
Aseer	18	3	21
Bishah	6	1	7
Tabouk	9	2	11
Ha`il	9	2	11
Northern	6	2	8
Jazan	18	2	20
Najran	8	2	10
Al-Bahah	7	4	11
Al-Jouf	5	2	7
Qurayyat	3	1	4
Qunfudah	2	0	2

Total	211	57	268

Table 4.1
Population of the study
Health Statistics Annual Book of MOH (2013)

4.3.1 Sampling and sample size

Sampling is the process of identifying and selecting the respondents of the questionnaire and the techniques that follow during the process. The selected respondents should represent the population (Sekaran, 2003; Zikmund, 2003). From the total number of hospitals included in the Health Statistics Annual Book for 2013 as the main sampling frame of this study, the probability stratified random sampling technique was used to select the sample from the hospitals. Initially, this technique sorts the population into homogeneous strata or groups. Table 4.1 shows that the hospitals are divided into two strata. One stratum includes the general hospitals, and the other includes the specialized hospitals.

Identifying the sample size generally follows the main recommendation as follows: the larger the sample size, the more accurate the expected results (Hair, 2010; Kumar et al., 2010). For other specifications, Hair, Sarstedt, Hopkins, and Kuppelwieser (2014) indicated that the minimum sample size should be 10 times the larger number of the variables, especially when SEM is used (Hair et al., 2014). In this study, five variables exist in the model. Therefore, the minimum required number of the sample should be 50. However, the study followed the recommendation of Sekaran (2003) regarding the use of Krejcie and Morgan's (1970) sample size table.

Based on the table, the desired of total sample from MOH hospital is 159, which represents 59% of the population (the desired sample/the total population 159/268). The total number of general hospital situated in KSA were 211 which were 78% of total population and specialized hospitals were 57 which were constituted into 22% of population size. By applying the proportional sampling technique, required sample size was 159 samples which comprise 125 (211*78%) from the general hospitals and 34 (57*22%) from the specialized hospitals. For example, the population's size of hospitals in Riyadh is 47 and applying proportional sampling 28 were selected for study. This same technique were applied to collect data from the hospitals and this technique allowed to collect sample from equally divided into sub population groups in all the general and specialized hospitals which can be seen in above mentioned table 4.1.

The reasons behind selected these hospitals are listed below:

1- These hospitals are considered as the first of the one hundred and fifty nine hospitals that seek to examine innovation performance trends among hospitals staff. And the main purpose of the present study is post-implementation, not pre-implementation.
2- These selected hospitals will reflect various viewpoints because the employee from different provinces in the KSA.
3- Finally, the structure of the Hospitals innovation process in health sector in KSA particular in the public and specialized hospitals is homogeneous. Thus, chosen one hundred and fifty nine hospitals will be sufficient.

4.3.2 Sampling Technique

The stratified sampling can be used and adapted if population elements contains same homogenous characteristics. These same assumptions were applied in the currents scenario, as it was mentioned that the respondent were directors of different hospitals. Additionally, these applying conditions in which first strata were the hospital directors, then second strata, were drawn by randomly selection of hospitals located in the different geographical location of Kingdom of Saudi Arabia.

The current study was focusing on same homogenous of characteristics of population which permits to utilize and applying stratified random sampling technique. From the perspective of current research objectives and goals, stratified sampling is the most efficient sampling technique among all common probability sampling techniques. In addition, it allows comparing the strata or the groups (Sekaran 2003). This technique also reduces the time and cost of the data collection process.

Table 4.2
Sampling Technique

MOH hospitals					
State	**General hospitals**	**Specialized hospitals**	**Total**	**Sample %**	**Sample size**
Riyadh	37	10	47	18	28
Makkah	9	1	10	4	6
Jeddah	8	5	13	5	8
Ta`if	11	3	14	5	8
Medinah	16	4	20	7	12
Qaseem	15	3	18	7	11
Eastern	15	3	18	7	11
Al-Ahsa	5	4	9	3	5
Hafr Al-Baten	4	3	7	3	4
Aseer	18	3	21	8	12
Bishah	6	1	7	3	4
Tabouk	9	2	11	4	7
Ha`il	9	2	11	4	7
Northern	6	2	8	3	5
Jazan	18	2	20	7	12
Najran	8	2	10	4	6
Al-Bahah	7	4	11	4	7
Al-Jouf	5	2	7	3	4
Qurayyat	3	1	4	1	2
Qunfudah	2	0	2	1	1
Total	211	57	268	100	159

4.3.3 Sampling frame

Homogenous population is the accurate one to get samples for random sampling. Being the necessity of the random sampling, the process starts with the making population homogenous, for that non-homogenous population is going to mixed into a homogenous

population. This process can be carried out by stratified random sampling, in which there is a sub group of homogenous population called strata, but this subdivision is made before the sample taking (Remenyi, Williams, Money, & Swartz, 1998, p. 195). This study followed a dual stratified random sampling strategy. To follow this strategy, in two different regions two different hospitals were selected. The reasons for this strategy are as follows:

1. The population is non-homogenous as in 20 regions there are general and specialist hospitals, in all public hospitals in Saudi Arabia the sample should be homogenous so that the study of the impact of transformational leadership and organizational culture gives the better effect on the quality management practices.

2. All the different identifiable strata are considered to ensure this sampling strategy (Hussey & Hussey, 1997, p. 146) so that within the sample every stratum is represented proportionally (Saunders, Lewis, & Thornhill, 2000, p. 164).

3. There would be reduction in the possibilities of error of estimation in this strategy.

4. To reduce the cost per observation in the survey, convenient groupings are helpful in stratification of the population elements.

5. To get the better result here may be subgroups within the population, and these subgroups may be further divided into identifiable strata.

In the sampling the proposition of each sample element were selected. According to the data extracted by ministry of health, Kingdom of Saudi Arabia, from the size of 268 hospitals 159 were chosen to concluded study which is mentioned by above Table 4.2.

4.4 Pilot study

A pilot study is employed to ensure the validity of the data collection instrument (Sekaran, 2003; Saunders et al., 2009). It verifies the validity of the instrument in terms of the used language, structure of instrument, format of the instrument, technical terms and concept of the instrument, allocated time to answer the questions, and response level (Kumar et al., 2010). Thus, results of the pilot study may indicate rewording the questions, revising the translation, modifying the structure of the instrument, reformatting, and reconsidering the approximated time to answer the questions (Creswell, 2012; Denscomb, 2010).

A sample size of 50 respondents, who were the managers of the hospitals, is considered to be adequate for the purpose of a pilot study (Saunders et al., 2009). In the present work, a pilot study was conducted to support the validity of the used questionnaire. The questionnaire was distributed to the sample population located in the Riyadh area. The collected answers were verified for accuracy and subsequently coded and tested for validity. The respondents were randomly selected from the population and informed that their answers will be used in the pilot study.

The cases were then keyed into the SPSS software to test for reliability. Reliability test generally uses the indication of Cronbach's alpha (Feild, 2009). Cronbach's Alpha over 0.7 is acceptable and considered good if it is over 0.8 (Stevens, 2009). Reliability test was

run to the 30 cases. As shown in Table 5.1, Cronbach's Alpha was 0.98 for the overall constructs. This result indicates good overall instrument reliability. As shown in the same table, separately testing each construct also resulted in good Cronbach's alphas ranging from 0.81 and 0.98, which indicates good reliability for each single construct. Thus, the instrument was considered for further data collection procedures. Then, the questionnaire was distributed for the respondents.

Table 4.3
Reliability test of pilot study

Construct	Cronbach's alpha
Quality management practices	.98
Quality culture	. 81
Transformational leadership	.96
Innovation strategy	.90
Innovation performance	.93

4.5 Data collection

The sampled hospitals were collected using a self-completion questionnaire. The self-completion questionnaire is a method wherein each participant fills in the questionnaire without assistance from the researcher (Denscombe, 2010). The clarity of a self-completion questionnaire depends on the clarity of the questions (Zikmund, 2003). This method is more suitable with a large population number compared with other methods because the former covers a broad geographical area where participants are distributed (Zikmund, 2003). Accordingly, this study utilized the self-completion questionnaire for data collection.

Response rate is the percentage of total questionnaires was returned by the respondents (Jobber, 1989). Sekaran (2003) stated the advantages of using self-administered questionnaires for a high-response rate: (i) aids respondents in understanding the objective of the questionnaire, (ii) illuminates any mistakes or uncertainties regarding any questions, and (iii) directly gathers the questionnaires after the respondents have completed them. However, to ensure a high degree of response, the researcher adopted the Drop-off and Pick-up (DOPU) self-administered questionnaire method where the questionnaires are hand delivered to respondents at their organizations for later retrieval. The main respondents of the questionnaire of this study were the directors of the hospital.

Having arrived at the total number of the potential respondents as 159, the current study determines the actual respondents (from the sampling frame) to whom the questionnaires were distributed using random technique. The MS Excel computer program was used to achieve the simple random sampling. This was done by generating random numbers for the sampling frame which determine the actual 159 respondents out of the strata. Hence, probability sampling is used across the strata to choose the individual respondents in order to draw an unbiased sample from the population. This is also important for wider generalization of the findings of this study.

4.6 Instrumentation

As explained in the previous section, the main instrument used in this study was the questionnaire. The questionnaire included six major parts. The first part addressed the demographic information of the organization. The second part measured the QMPs variables. The third part was used to measure quality culture. The fourth part measured

innovation strategy. The fifth part measured transformational leadership, and the sixth part was used to measure innovation performance. All measurement items used the five-point Likert scale.

Likert scale measure is the most commonly employed scales to examine the relationship in business and management research (Al-Marri et al., 2007). Specifically, to accomplish the objectives of this study five-point Likert scale was used. The scale is ranging the answer options from 1 to 5: 1 represent Strongly Disagree, 2 represent Disagree, 3 represent Neutral, 4 represent Agree, and 5 represent Strongly Agree. Five-point Likert scale was used because most of the previous studies examined the relationships of QMPs, quality culture, transformational leadership, innovation strategy and innovation performance have used it and it gave adequate outcomes (Hoang, Igel, & Laosirihongthong, 2006; Plekhanova et al., 2012; Rad, 2006; Zehir, Ertosun, Zehir, & Müceldili, 2011). In addition, the Five-point Likert scale is direct and simple which make it easy for the respondent to understand and answer.

4.7 Measurement of variables

Operationalization is the process of representing the variable of a study into empirical testing for real-world applications (Babbie, 2010). In the present study, QMPs construct was operationally defined by the total score of eight sub-variables, namely, training and education, employee involvement, strategic quality planning, customer focus, information and analysis, continuous improvement, process management, and role of quality department. Items measuring the QMPs construct were adapted from the study of (Adam, 1994; Ahire et al., 1996; Ahmed, 2009; Anderson et al., 1998; Antony et al., 2002; Awan

et al., 2009; Black & Porter 1996; Douglas & Fredendall, 2004; Dow et al., 1999; Flynn et al., 1994, 1995; 110 LeBrasseur, Whissell, & Ojha, 2002; Lewis et al., 2006; Motwani , 2001; Ruggieri & Merli, 1998; Salaheldin, 2009; Samson & Terziovski, 1999; Shortell et al.,1995; Yusof & Aspinwall, 2000) Justifying the adaptation includes the following: the items were used to study QMPs in KSA hospitals by (Alharbi & Yusoff, 2012), the participants were the managers of the hospitals, and the items had been tested for validity and reliability. The study operationalized Training and education construct using four items of measure from (Wilson & Collier, 2000). Employee involvement were operationalized by the item of four items of construct (Shortell et al. 1995; LeBrasseur et al. 2002). In the meanwhile, strategic quality planning were utilized as the seven items construct which validated by Shortell et al. (1995). Additionally, Customer focus were operationalized by six items construct. Shortell et al. (1995). Information and analysis were operatized by six items Developed by Shortell et al. (1995). In addition, Continuous improvement were adapted by the study of which develop the construct based on the four items. (Douglas & Fredendall, 2004). Process management were adapted for current study were six items construct (Douglas & Fredendall, 2004). The Role of the quality department were four items construct were used in current study (Saraph et al.,1989). All the measurements were scaled using a five-point Likert scale ranging as follows: 1= strongly agree, 2 = agree, 3 = neutral, 4 = disagree, and 5 = strongly agree.

4.7.1 Quality culture

Quality culture construct was defined operationally by 5 items, namely, improvement orientation, teamwork orientation, mission and goal orientation, management style, and personnel performance. These measurements were adapted from Jallow's (2003) for the

following justifications: similar to the current work, the items were used in a study conducted in the KSA by (Alotaibi & Yusoff, 2015) , and the items had been tested for reliability and validity.

4.7.2 Transformational leadership

Transformational leadership was operationally defined by the total eighteen items. The items were the most common items used to measure transformational leadership. In the context of KSA hospitals, two studies utilized these measurement items in the study of (Bass & Avolio, 1995). The justifications of the adaption are as follows: the items were used to study QMPs in KSA hospitals by (Alharbi & Yusoff, 2012), the participants were the managers of the hospitals, and the items had been tested for validity and reliability.

4.7.3 Innovation strategy

Innovation strategy construct was operationally defined by eight measurement items. The measurement items were adopted from Terziovski (2010) because they had been verified for reliability and validity and they widen the scope of innovation strategy, thereby producing additional extensive results.

4.7.4 Innovation performance

Innovation performance construct was operationally defined with the total score of two sub-variables, namely, process innovation and service innovation. Those measurement items were adapted from Sadikoglu and Zehir (2010) and Yusr et al. (2012). Those measurement items were adapted for the following reasons: the level of analysis in both studies is the organizational level; the participants include managers of service organizations; the items are consistent with the comprehensive framework having the

most used innovation typology, namely, process innovation and product/service innovation; and the items had been tested for validity and reliability. Table 4.2 shows all the measurement items with their resources. All the measurements were scaled using a five-point Likert scale ranging as follows: 1= strongly agree, 2 = agree, 3 = neutral, 4 = disagree, and 5 = strongly agree.

Table 4.4
Measurements Items

Brief Definition	Measurement	Sources
"Employees training and education to get organization goals and objectives"	**Training and education** 1. Hospital employees are given education and training on strategies to identify and act on quality improvement opportunities. 2. Hospital employees are given education and training in methods supporting quality improvement. 3. Hospital employees are given the required education and training to improve job skills and performance. 4. Hospital employees are rewarded and recognized (e.g., financially and/or otherwise) to improve quality.	Wilson & Collier, 2000
"This discusses to what extent the hospital employees have been provided adequate education and training for quality improvement efforts. Employee's involvement and empowerment in the quality planning efforts of the hospitals"	**Employee involvement** 1. Teamwork and consensus are important in our hospital. 2. Our hospital encourages employees to participate in decision making. 3. Our hospital attempts to understand the perspectives of patients in defining the quality of health services. 4. Our hospital's senior management encourages teamwork across units and disciplines.	Shortell et al. (1995), LeBrasseur et al. (2002)

Table 4.4 (continued)

"Development of the strategic objectives and action plan by the hospital".	**Strategic quality planning** 1. Hospital employees are given adequate time to plan for and test improvements. 2. Each department and work group within this hospital maintains specific goals to improve quality. 3. The hospital's quality improvement goals are known throughout the organization. 4. Hospital employees are involved in developing plans to improve quality. 5. Middle managers (e.g., department heads, program directors, and first-line supervisors) play a key role in setting priorities for quality improvement. 6. External customers play a key role in setting priorities for quality improvement. 7. Non-managerial employees play a key role in setting priorities for quality improvement	Shortell et al. (1995)
"To what extent is the hospital able to effectively assess and meet customer requirements and expectations".	**Customer focus** 1. The hospital effectively assesses current patient needs and expectations. 2. Hospital employees promptly resolve patient complaints. 3. Patients' complaints are studied to identify patterns and prevent the recurrence of similar problems.	Shortell et al. (1995)

Table 4.4 (continued)

	4. The hospital uses data from patients to improve services. 5. The hospital effectively assesses physician satisfaction with hospital services. 6. The hospital uses data on customer expectations and/or satisfaction when designing new services.	
To what extent scope, the management, and the use of data and information. It goes on to demonstrate how these factors are important to maintain customer focus, quality excellence, and to improve operational and competitive performance	**Information and analysis** 1. The hospital collects a wide range of data and information on the quality of care and services. 2. The hospital uses a wide range of data and information on the quality of care and services to make improvements. 3. The hospital continually attempts to improve its processes of utilizing data and information on the quality of care and services. 4. The hospital continually attempts to improve the accuracy and relevance of its data on the quality of care and services provided. 5. The hospital continually attempts to improve the timeliness of its data on the quality of care and services provided 6. The hospital compares its data to data on the quality of care and services at other hospitals.	Shortell et al. (1995)

Table 4.4 (continued)

"what extent to which the hospital is able to pursue innovative improvements of its process and services"	**Continuous improvement** 1. Managers in the hospital attempt to improve the quality of their services. 2. Managers in the hospital believe that quality improvement is their responsibility. 3. Managers in the hospital analyze their work services in search of best practices to improve their performance. 4. The hospital has witnessed numerous improvements in its services.	Douglas & Fredendall (2004)
"The focus is on the methodological and behavioral practices, which shows that the management of process is more important than the results"	**Process management** 1. Quality data (defects, complaints, outcomes, time, satisfaction, etc.) are available. 2. Quality data are timely. 3. Quality data are used as tools to manage quality. 4. Quality data are accessible to hourly workers. 5. Quality data are accessible to managers and supervisors. 6. Quality data are used to evaluate supervisor and managerial performance.	Douglas & Fredendall (2004)

Table 4.4 (continued)

"The quality department needs quality staff for consultation and they must be granted visibility and autonomy"	**Role of the quality department**	Saraph et al. (1989)
	1. The quality department in the hospital is visible and easily accessed by all.	
	2. The quality department's access to divisional top management is easy.	
	3. The quality department in the hospital is independent.	
	4. A good level of coordination exists between the quality department and other departments.	
	Quality culture	
	Improvement orientation	
	1. Workers who have significant experience in performing their tasks do not require spending time collecting much information to determine a better strategy to improve their tasks.	Jallow's (2003)
	2. Attempting to improve the approaches to accomplish tasks is everyone's responsibility.	
	3. An important part of everyone's responsibility is to study our ways of working.	
	4. A regular meeting to analyze ways of completing tasks significantly contributes to the improvement of customer needs.	

	5. The idea of continually studying the processes of completing tasks is important for all employees.	
"The quality department needs quality staff for consultation and they must be granted visibility and autonomy"	**Teamwork orientation**	Saraph et al. (1989)
	Mission and goals orientation 1. Employees and workers are aware of the mechanisms in which their tasks contribute to the organization's mission. 2. The organization's mission is understood by everyone employed in the hospital. 3. Workers in this organization do not feel that the organization's goals are significantly integral to their work. 4. People employed in the hospital have no exact knowledge of the mechanisms in which their tasks contribute to the goals of the organization. 5. All employees and workers understand the organization's goals.	

Table 4.4 (continued)

Management Style	
1. Employees and workers can easily meet and listen to the management.	
2. Employees and workers are aware of the mechanism in which changes in their work affect others.	
3. People in the organization generally listen to the ideas of change.	
4. The hospital management willingly spends money to improve the quality of our services.	
Personal Influence/Performance	
1. My performance is judged more by the quantity rather than the quality of completing my tasks.	
2. Employees and workers in this organization are satisfied as long as the work meets the minimum standards.	
3. Employees and workers have control over the processes of fulfilling their tasks.	
4. Employees and workers do not influence their groups on the processes of fulfilling their tasks.	

Table 4.4 (continued)

"Formal planning is often regarded as limited to large enterprises and thus not transferable to the requirements of the fast-moving and flexibly structured"	**Innovation strategy** 1. The organization's vision and mission include a reference to innovation. 2. Innovation strategy had assisted the organization in achieving strategic goals. 3. Improving administrative routine is seen as part of our innovation strategy. 4. Internal cooperation is an important part of innovation strategy implementation. 5. Customer satisfaction is part of our innovation strategy. 6. Improving service quality is one of our key objectives of innovation strategy. 7. Formulating innovation strategy increases employees' skills. Improving employees' commitment, morale, or both is part of our innovation strategy monitoring.	Terziovski, (2010)

Table 4.4 (continued)

"A process in which the leaders take actions to try to increase their associates' awareness of what is right and important, to raise their associates' motivational maturity and to move their associates to go beyond the associates' own self-interests for the good of the group, the organization, or society. Such leaders provide their associates with a sense of purpose that goes beyond a simple exchange of rewards for effort provided"	**Transformational leadership** 1. Top managers of the hospital discuss the most important values and beliefs. 2. Top managers of the hospital seek differing perspectives when solving problems. 3. Top managers of the hospital optimistically describe the future. 4. Top managers of the hospital proudly associate themselves with their employees. 5. Top managers of the hospital enthusiastically discuss the expected accomplishments. 6. Top managers of the hospital specify the importance of having a strong sense of purpose. 7. Top managers of the hospital spend time teaching and coaching. 8. Top managers of the hospital transcend self-interest for the good of the group. 9. Top managers of the hospital treat their employees as an individual rather than as a member of a group. 10. Top managers of the hospital act in ways that build employees' respect. 11. Top managers of the hospital consider the moral and ethical consequences of decisions. 12. Top managers of the hospital display a sense of power and confidence. 13. Top managers of the hospital articulate a compelling vision of the future.	Avolio & Bass, 1995)

Table 4.4 (continued)

	Top managers of the hospital consider each employee as having different needs, abilities, and aspirations from others. Top managers of the hospital encourage their employees to view problems from many different angles. Top managers of the hospital assist their employees in developing their own strengths. Top managers of the hospital suggest fresh strategies to complete assignments.	
"The incremental approach results in achieving product conformance, rather than product innovation, and constrains the firm's ability to innovate. Continuous improvement inhibits break-through improvement (innovation) since it focuses on incremental change, necessitates standardization in order to establish control, stability, and routine, and prevents people from thinking of radical changes in the organization"	**Innovation performance** **Process innovation** 1. The number of new processes in our hospital has increased in the last five years. 2. Our hospital is the first to offer new processes compared with other hospitals. 3. Our hospital is fast in bringing and applying new processes. 4. Our hospital encourages the new ideas presented to develop new processes. **Service innovation** 1. Our hospital is the first to offer new services compared with other hospitals. 2. The number of new services in our hospital has increased in the last five years. 3. Our hospital encourages the new ideas presented to develop new services. 4. Our hospital is fast in bringing new services to the people availing of the services.	Sadikoglu and Zehir (2010) and Yusr et al. (2012)

4.8 Operational definitions

The operation definition of exogenous and endogenous variables are as mentioned below:

Training and education "Employees training and education to get organization goals and objectives" (Wilson & Collier, 2000).

Employee involvement "Employee's involvement and empowerment in the quality planning efforts of the hospital" (Short ell et al. 1995 & LeBrasseur et al. 2002).

Strategic quality planning "Development of the strategic objectives and action plan by the hospital". (Short ell et al. 1995).

Customer focus To what extent is the hospital able to effectively assess and meet customer requirements and expectations (Short ell et al.,1995).

Information and analysis "To what extent scope, the management, and the use of data and information. It goes on to demonstrate how these factors are important to maintain customer focus, quality excellence, and to improve operational and competitive performance" (Short ell et al., 1995).

Continuous improvement "To what extent to which the hospital is able to pursue innovative improvements of its process and services" (Douglas & Fredendall 2004).

Process management "The focus is on the methodological and behavioral practices, which shows that the management of process is more important than the results" (Douglas & Fredendall 2004).

Quality culture "Quality culture is referred to as an environment reflecting positive commitment to quality outcomes, products, systems, and processes; it stresses upon continuous improvement" (Jallow , 2003).

Innovation performance "The incremental approach results in achieving product conformance, rather than product innovation, and constrains the firm's ability to innovate. Continuous improvement inhibits break-through improvement (innovation) since it focuses on incremental change, necessitates standardization in order to establish control, stability, and routine, and prevents people from thinking of radical changes in the organization" (Sadikoglu & Zehir ,2010).

Innovation Strategy, "Formal planning is often regarded as limited to large enterprises and thus not transferable to the requirements of the fast-moving and flexibly structured" (Terziovski, , 2010).

Transformational leadership "a process in which the leaders take actions to try to increase their associates' awareness of what is right and important, to raise their associates' motivational maturity and to move their associates to go beyond the associates' own self-interests for the good of the group, the organization, or society. Such leaders provide their associates with a sense of purpose that goes beyond a simple exchange of rewards for effort provided" (Bass & Avolio, 1997, p. 11).

Role of the quality department "The quality department needs quality staff for consultation and they must be granted visibility and autonomy" (Saraph et al.,1989).

4.9 Translation of the questionnaire

Participants of this study mainly speak Arabic language who find problem in understanding English. Thus, the researcher translates the original questionnaire items from non-Arabic into Arabic language using back to back translation method to ensures a high level of matching that enable the respondent to provide accurate answers. On other words, for the purpose of making sure the equivalence and consistency between the two sets of questionnaires, the original questionnaire was translated to Arabic language by a translator and then another translator translated back the questionnaire into English. The help from two specialists in the translation and two academicians working in the business management department of King Saud University in KSA was obtained. Based on their recommendations and comments, the adjustments were made.

4.10 Data analysis

To analyze the collected data, this study used SPSS to run data screening and apply preliminary analysis. Then, SEM utilizing Partial Least Squares Structural Equation Modeling (PLS SEM) using SmartPLS version 3 software was applied to test the hypothesized relationships. PLS SEM was used because of the small sample size (Hair et al., 2014). SPSS is widely used in management and social research (Saunders et al., 2009).

4.11 Content validity

The content validity is the degree to which the measurement items proposed to measure a construct are able to measure the concept that was designed to be measured construct (Hair *et al.*, 2010). Items that designed to measure a construct need to be higher loaded

on their corresponding construct than their loading on other constructs. Hence, through inclusive review of the previous studies in literature review, all items were suitably assigned to their constructs. In this study the content validity was insured through the high loading of the items loadings values on their respective constructs. To examine the validity of instrument, senior research fellows of PhD from King Saud University in KSA were consulted. In the results, detailed examination of instrument was endorsed by the senior research fellow to observe any ambiguity in the research items such as recoding etc.

4.12 Preliminary statistical analysis using SPSS

SPSS software enables the researcher to perform statistical analysis by coding the entries in terms of simple columns and rows. Outputs of SPSS are editable and can be easily moved to the text files (Pallant, 2011). Therefore, using SPSS is appropriate and useful in this study. SPSS was used to screen and clean the entered data from missing value and outliers, and then report the normality of distribution statistics. Normality of data distribution is measured using the Kurtosis and Skewness values. If the Kurtosis and Skewness values ranged between +3 and -3 the data can be considered as normally distributed (Kline, 2011).

4.13 Structural equation modeling

SEM is widely used in the fields of social research (Byrne, 2010; Hair et al., 2010). The present study used SEM for several justifications as follow:

i. SEM contains a confirmatory approach, which is used when the instrument has been previously applied. In other words, confirmatory approach is effective when using previously used and tested instruments as the case of the study.

ii. SEM has the ability to test multiple and complicated relationships. The complexity of the model of this study stems from its five constructs: QMPs, quality culture, innovation strategy, transformational leadership and innovation performance. Specifically, QMPs constructs is the antecedent of innovation performance and both quality culture and innovation strategy are mediating the mentioned relationship. Moreover, transformational leadership is a moderator on the link between QMPs and innovation performance.

iii. SEM considers errors in the model, which increases the accuracy of the results.

PLS SEM technique was used to analyze the data. PLS SEM was used because it is reliable in avoiding the strict assumption of data size and the prerequisite of normality of the data (Hair et al., 2014).

There are two types of SEM approaches, Variance Based SEM (VBSEM) and Covariance Based SEM (CBSEM) Approaches. The CBSEM is proposed as a confirmatory model and it is distinct from the Partial Least Square (PLS) path modelling as is prediction-oriented. Recently, the popularity of PLS path modelling is increased, particularly in the market and social research areas because it is a convenient and powerful method in analyzing data in complex models, non-normal data and small sample size (Hair et al., 2014). Therefore, in this study PLS SEM was used because of the small number of the sample size and to avoid any restriction of normality of the distribution and because the

model of this study is complicated with two mediators and one moderator in addition to the independent and dependent variables (Hair et al., 2014). All the hypothesized relationships were tested by PLS SEM techniques using SmartPLS.3 software.

The PLS modeling used in this study was proposed by Wold (1985). It was developed and proposed under the Latent Variables Partial Least Squares software. Chin's (1998; 2001) added the graphical interface (PLS-Graph) to the theoretical model. The use of PLS path modeling method is common in estimating the causality of latent variables measured indirectly by numerous indicators. The study of Chin (1998; 2001) explained the methodological use of PLS.

Two types of models can show the description of the PLS path model. The first is the measurement model involving manifest variables (MVs) to their latent variables (LVs). The second is the structural model linking endogenous LVs to other LVs. In PLS, the measurement model is referred to as the outer model, whereas the structural model is the inner one. The inner model shows the link between the unobservable LVs, while the outer model shows the link between each LV and its MV.

The general scheme of a PLS is a recursive inner model linked to predictors. Therefore, the inner model consists of causal chain relations and includes two sorts of outer models, namely, the reflective measurement model and the formative measurement model. The reflective models develop contributory relations directing the rows from the LV to the MV. Therefore, each evident variable within a specific measurement model is considered to be developed as a linear function of the LVs with the residuals. Conversely, the formative model develops occasional relations directing the rows from the MVs to their

LV. The terms "formative" and "reflective" and the implication linked with the classification of "causal" and "effect" must be considered as well. These terms highlight the distinction among the characterization of the mode of the LV measurement models.

The PLS algorithm is basically a regression sequence, which depends on weight vectors. These weight vectors are achieved at a convergence extent to fixed point equations. Lohmöller (1989) recommended that the basic PLS algorithm comprises three phases. The first phase is an iterative estimation of an LV. This step includes LV external approximation, inner weight assessment, LV scores internal approximation, and outer model weight estimation. The second is the evaluation of factor loadings and path coefficient. The third phase is the evaluation of location parameters.

CHAPTER FIVE

ANALYSIS AND FINDINGS

5.1 Introduction

This chapter applies, presents, and illustrates the analysis of the collected data. It starts with presenting the results of the reliability analysis conducted in a pilot study to increase the validity of the instrument. Then, the chapter shows data screening techniques for preparing the data for further analysis techniques. It then shows the reliability of the analysis results for all the constructs involved in the study, as well as the overall reliability analysis. The next part of the chapter shows the descriptive statistics for the variables to reveal the specific characteristics of each construct with its variable. Then, the chapter presents the demographic data of the respondents, including each case included in the analysis. The next section starts the direct analysis techniques related to verifying whether the data are relevant to the objectives of this study. Factor analysis is using SmartPLS-SEM to validate the model of the study and SEM to test the hypotheses.

5.2 Distribution of the questionnaire and response rate

The stratified random sampling technique was used to divide the hospitals into two strata (public hospitals and specialized hospitals). A total of 159 hospitals were selected in KSA, 125 were general hospitals and 34 were specialized hospitals. The target respondents of this study were the directors of the hospitals. Before distributing the survey, the questionnaire was translated and prepared in Arabic language because all the hospitals directors speak Arabic. The participating hospitals were contacted and given an explanation regarding the details of the questionnaire.

The questionnaire was distributed through self-delivery and self-collection method. The distribution and collection processes took three months, starting on 19 February 2016 and ending on 20 May 2016. The targeted sample was the 159 hospitals. Each hospital obtained a copy for the director. During the three months, a total of 115 usable answered questionnaires were collected, 93 from the general hospitals and 22 from the specialized hospitals, representing a total response rate of 72.3%; such result was considered good for a study that uses an organizational level of analysis (Sekaran, 2003).

5.3 Data screening

The responses to all collected questionnaire copies (115 questionnaires) were coded into numeric values and keyed into the SPSS software to start the first step of the analysis, namely, data screening and cleaning (Uma Sekaran, 2003). Data screening and cleaning screening aim to ensure that the data file under the analysis has no missing values and outlier values and meet the minimum requirement of SEM modeling, such as the issues of normality (Field, 2009; Pallant, 2011).

5.3.1 Missing data and outliers

Missing data values occur for several reasons. For example, the participant refused to fill in the appropriate answers, the participant had no answers for the questions, the participant missed a question, or the participant entered the wrong values (Saunders et al., 2009). If missing values of the data present a high percentage from the data, the researcher must carefully recheck and revise them thereafter. In this case, the researcher must check if the missing values are random happenings or systemic happenings. Random happenings of missing data values are common, whereas the systemic happening

pattern considers real errors, which require the researcher to perform fundamental changes to the data (Pallant, 2011).

In the current study, the procedures of data screening and cleaning show no missing values requiring consideration because the researcher has excluded all uncompleted cases before entering the data into the SPSS. Then, cleaning the data from outliers was applied. Outliers refer to those cases with very different scores (Pallant, 2011), or those that can be explained by very low values or very high values compared with the other data scores. In the current study, very few outliers (less than 5% of the data) were detected and recoded (Pallant, 2011).

5.3.2 Reliability analysis

The collected useable cases were then tested for reliability. Reliability test generally uses the indication of Cronbach's alpha (Feild, 2009). Cronbach's alpha over 0.70 is acceptable and it is considered good if it is over 0.8 (Stevens, 2009). As shown in Table 5.2, each construct also separately resulted in good Cronbach's alphas ranging from 0.84 to 0.98, indicating good reliability for each single construct. Thus, the instrument is considered for further data analysis procedures.

Table 5.1
Construct reliability test

Construct	Cronbach's Alpha
Quality management practices	.98
Quality culture	.85
Transformational leadership	.98
Innovation strategy	.96
Innovation performance	.90

5.3.3 Common method bias test

Common method bias affects the validity of the instrument and research findings (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Several method biases include measurement bias, sample bias, observer bias, response bias, non-response bias, interviewee bias, and interviewer bias (Denscombe, 2010; Saunders et al., 2009). All types of biases employ two approaches, namely, procedural and statistical methods (Podsakoff et al., 2003). The procedural method is used during the first stage of designing a study, whereas the statistical method is used after acquiring the data.

In this study, measurement bias was avoided by applying the recommendations of Saunders et al. (2009) to adapt the measurement items from other studies and implement a pilot study to test the items. To deal with and avoid sample bias as recommended by Denscombe (2010), the initial procedure was followed by verifying that the selected sample is relevant to the scope of the study. Non-response bias was avoided by applying the recommendations of Creswell (2012), thereby ensuring that the respondents can understand and provide the proper answers to the questions using their knowledge on QMPs, innovation, culture, leadership, and strategy.

5.3.4 Statistical techniques to control common method variance

To test the common variance using statistical techniques, Harman's single-factor test is recommended (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Harman's test is applied by loading all measurement factors into a single exploratory factor. If the single factor presents variance higher than 50%, then the bias presents a challenge to the study. Table 5.3 presents the result of Harman's single-factor test implemented on the variables of the

study. The test shows the Harman's single-factor test resulting in single factor variance of 45.2%, which is less than 50% of the total variance. Therefore, the data are valid for further analysis with regard to the common bias.

Table 5.2
Harman's single-factor test

Single factor total variance explained						
Initial Eigenvalues				**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	45.729	45.729	45.729	45.212	45.212	45.212
2	4.833	4.833	50.562			
3	4.503	4.503	55.065			
4	3.027	3.027	58.092			
5	2.618	2.618	60.710			
6	2.288	2.288	62.998			
7	2.068	2.068	65.066			
8	1.694	1.694	66.760			
9	1.557	1.557	68.317			
10	1.440	1.440	69.758			
11	1.302	1.302	71.060			
12	1.184	1.184	72.245			
13	1.101	1.101	73.345			
14	1.052	1.052	74.398			
15	1.030	1.030	75.427			
16	.969	.969	76.397			
17	.944	.944	77.340			
18	.889	.889	78.230			
19	.833	.833	79.063			
20	.810	.810	79.873			
21	.770	.770	80.643			
22	.760	.760	81.402			
23	.712	.712	82.115			
24	.682	.682	82.797			
25	.658	.658	83.455			
26	.622	.622	84.077			
27	.598	.598	84.675			
28	.571	.571	85.246			
29	.559	.559	85.805			
30	.525	.525	86.330			
31	.513	.513	86.843			
32	.508	.508	87.351			

Table 5.2 (continued)

33	.502	.502	87.853
34	.453	.453	88.306
35	.446	.446	88.752
36	.432	.432	89.184
37	.425	.425	89.609
38	.402	.402	90.011
39	.395	.395	90.406
40	.380	.380	90.786
41	.369	.369	91.156
42	.363	.363	91.518
43	.340	.340	91.858
44	.336	.336	92.195
45	.321	.321	92.516
46	.310	.310	92.826
47	.301	.301	93.127
48	.294	.294	93.421
49	.286	.286	93.707
50	.275	.275	93.982
51	.264	.264	94.246
52	.256	.256	94.502
53	.251	.251	94.753
54	.241	.241	94.993
55	.235	.235	95.228
56	.223	.223	95.451
57	.218	.218	95.669
58	.209	.209	95.878
59	.205	.205	96.083
60	.201	.201	96.283
61	.196	.196	96.479
62	.181	.181	96.660
63	.178	.178	96.838
64	.169	.169	97.008
65	.162	.162	97.170
66	.160	.160	97.329
67	.148	.148	97.478
68	.142	.142	97.620
69	.136	.136	97.756
70	.135	.135	97.891
71	.127	.127	98.017
72	.125	.125	98.142
73	.119	.119	98.262
74	.114	.114	98.376
75	.108	.108	98.484
76	.103	.103	98.586

Table 5.2 (continued)

77	.101	.101	98.688
78	.094	.094	98.782
79	.093	.093	98.875
80	.091	.091	98.966
81	.083	.083	99.049
82	.080	.080	99.129
83	.077	.077	99.206
84	.075	.075	99.280
85	.069	.069	99.349
86	.066	.066	99.415
87	.065	.065	99.480
88	.060	.060	99.539
89	.055	.055	99.595
90	.053	.053	99.647
91	.048	.048	99.696
92	.044	.044	99.739
93	.042	.042	99.782
94	.040	.040	99.822
95	.039	.039	99.860
96	.033	.033	99.894
97	.032	.032	99.926
98	.028	.028	99.954
99	.027	.027	99.981
100	.019	.019	100.000

Extraction Method: Maximum Likelihood.

5.4 Descriptive statistics and normality test

Descriptive statistics shows the characteristics of the data and the main essential indicators that describe the data. Descriptive statistics usually includes means, minimum data point that has been entered by the respondents, and maximum data point that has been entered by the respondents. In addition to the descriptive statistics, SPSS generates the Skewness and kurtosis values. Skewness and kurtosis values are in the range indicating the normal distribution of data (Awang, 2012; Kline, 2011).

5.4.1 Descriptive statistics and normality test for QMPs

As shown in Table 5.4, descriptive statistics of QMPs showed the means arranged between 1.97 and 3.25. This finding implies that the general answers lean toward from 1 to 5: 1 Strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree, and 5 Strongly Agree. Skewness and kurtosis values are in the range indicating the normal distribution of data (Kline, 2011). Therefore, the data are useable for further analysis using the SEM analysis technique.

Table 5.3
Descriptive statistics and normality test for QMPs measurement items

No	Item	Min.	Max.	Mean	Kurtoses	Skewness
1	Hospital employees are given education and training on techniques to identify and act on quality improvement opportunities.	1	5	2.565	-1.046	0.82
2	Hospital employees are given education and training on methods supporting quality improvement.	1	5	2.687	-1.95	0.194
3	Hospital employees are given the necessary education and training to improve job skills and performance.	1	5	2.539	-1.038	0.429
4	Hospital employees are rewarded and recognized (e.g., financially and/or otherwise) to improve quality.	1	5	3.183	-1.11	-0.222
5	Teamwork and consensus are important in our hospital.	1	5	1.974	0.637	1.097
6	Our hospital encourages employees to participate in decision making.	1	5	3.13	-1.158	-0.1
7	Our hospital attempts to understand the perspective of patients in defining the quality of health services.	1	5	2.861	-1.075	0.126

Table 5.3 (continued)

8	Our hospital's senior management encourages teamwork across units and disciplines.	1	5	2.783	-1.029	0.232
9	Hospital employees are given adequate time to plan for and test improvements.	1	5	3.165	-1.04	-0.207
10	Each department and work group within this hospital maintains specific goals to improve quality.	1	5	2.783	-0.862	0.398
11	The hospital's quality improvement goals are known throughout the organization.	1	5	2.93	-1.091	0.133
12	Hospital employees are involved in developing plans to improve quality.	1	5	3.252	-0.98	-0.241
13	Middle managers (e.g., department heads, program directors, and first-line supervisors) play a key role in setting priorities for quality improvement.	1	5	2.739	-1.083	0.25
14	External customers play a key role in setting priorities for quality improvement.	1	5	3.096	-1.064	0.071
15	Non-managerial employees play a key role in setting priorities for quality improvement.	1	5	2.73	-1.028	0.334
16	The hospital effectively assesses current patient needs and expectations.	1	5	2.87	-0.995	0.277
17	Hospital employees promptly resolve patient complaints.	1	5	2.67	-0.438	0.464
18	Patients' complaints are investigated to identify patterns and prevent the recurrence of similar problems.	1	5	2.722	-0.756	0.362
19	The hospital uses data from patients to improve services.	1	5	2.957	-0.964	-0.035

Table 5.3 (continued)

20	The hospital effectively assesses physician satisfaction with hospital services.	1	5	3.174	-1.031	-0.159
21	The hospital uses data on customer expectations and/or satisfaction when designing new services.	1	5	3.226	-1.127	-0.084
22	The hospital collects a wide range of data and information regarding the quality of care and services.	1	5	2.948	-1.043	0.101
23	The hospital uses a wide range of data and information regarding the quality of care and services to make improvements.	1	5	2.957	-1.075	0.22
24	The hospital continually attempts to improve the processes in which it uses data and information on the quality of care and services.	1	5	2.904	-1.03	0.156
25	The hospital continually attempts to improve the accuracy and relevance of its data on the quality of care and services provided.	1	5	2.93	-0.977	0.134
26	The hospital continually attempts to improve the timeliness of its data on the quality of care and services provided.	1	5	3.053	-1.053	0.065
27	The hospital compares its data to data on the quality of care and services at other hospitals.	1	5	3.087	-1.085	0.061
28	Managers in the hospital attempt to improve the quality of their service.	1	5	2.774	-0.73	0.42
29	Managers in the hospital believe that quality improvement is their responsibility.	1	5	2.748	-0.993	0.327

Table 5.3 (continued)

30	Managers in the hospital analyse their work services to search for ways to improve their performance.	1	5	2.887	-0.976	0.102
31	The hospital has witnessed many improvements in its services.	1	5	2.487	-0.256	0.684
32	Quality data (defects, complaints, outcomes, time, satisfaction, etc.) are available.	1	5	2.817	-0.916	0.17
33	Quality data are timely.	1	5	2.974	-0.951	0.217
34	Quality data are used as tools to manage quality.	1	5	2.957	-1.126	-0.001
35	Quality data are available to hourly workers.	1	5	2.939	-1.066	0.143
36	Quality data are available to managers and supervisors.	1	5	2.652	-0.601	0.64
37	Quality data are used to evaluate supervisor and managerial performance.	1	5	3.209	-0.98	-0.117
38	The quality department in the hospital is visible and easily accessed by all.	1	5	2.67	-0.856	0.492
39	The quality department's access to divisional top management is easy.	1	5	2.191	0.161	0.896
40	The quality department in the hospital is independent.	1	5	2.704	-0.876	0.359
41	A good level of coordination exists between the quality department and other departments.	1	5	2.661	-0.889	0.374
42	The quality department is effective in improving quality in the hospital.	1	5	2.583	-0.885	0.465

5.4.2 Descriptive statistics normality test of quality culture

As shown in Table 5.5, descriptive statistics of quality culture showed the means arranged between 1.698 and 3.04. This finding implies that the general answers lean toward selecting one of the two answers, namely, Disagree and Neutral. Skewness and kurtosis values are in the range indicating the normal distribution of data. Therefore, the data are useable for further analysis using the SEM analysis technique.

Table 5.4
Descriptive statistics and normality test for culture measurement items

No	Item	Min.	Max.	Mean	Kurtoses	Skewness
1	Workers with significant experience performing their tasks do require spending time collecting much information to determine techniques to improve them.	1	5	2.722	-0.769	0.39
2	Attempting to improve the processes of completing each task is everyone's responsibility.	1	5	1.687	1.827	1.53
3	An important part of everyone's responsibility is to study our working style.	1	5	1.748	3.566	1.63
4	A regular meeting to analyze the processes in which tasks are successfully accomplished significantly contributes to improving customer needs.	1	5	1.861	2.092	1.418
5	The idea of continually studying the processes of work is important for all employees.	1	5	1.817	1.439	1.136
6	Employees and workers from different departments of the hospitals help one another.	1	5	2.704	-0.48	0.447
7	Employees and workers in different departments of the hospitals are comfortably suggesting changes and improvements to one another.	1	5	2.6	-0.466	0.503

8	Significant cooperation exists between groups in this hospital.	1	5	2.791	-0.889	0.253
9	Groups in this hospital fail to work together to solve problems.	1	5	2.661	-1.038	0.184
10	Employees and workers are aware of the mechanisms in which their work contributes to the organization's mission.	1	5	2.635	-0.812	0.439
11	Organization's mission is understood by everyone employed in the hospital.	1	5	2.896	-1.023	0.027
12	Workers in this organization do not feel that the organization's goals are highly integral in their work.	1	5	2.687	-1.152	0.177
13	People employed in the hospital do not exactly know the mechanisms in which their work contributes to the goals of the organization.	1	5	2.904	-1.071	0.274
14	All employees and workers understand the organization's goals.	1	5	2.939	-1.158	0.039
15	Employees and workers can easily meet and listen to the management.	1	5	2.635	-0.686	0.277
16	Employees and workers are aware of the mechanisms in which changes in their work affect others.	1	5	2.835	-0.907	0.17
17	People in the organization generally listen to the ideas of change.	1	5	3.043	-1.14	-0.033
18	The hospital management willingly spends money to improve the quality of our services.	1	5	2.504	-0.598	0.411
19	My performance is judged more by the quantity rather than the quality of my performance.	1	5	2.4	-0.907	0.361
20	Employees and workers in this organization are satisfied as long as their work meets the minimum standards.	1	5	2.53	-0.399	0.405
21	Employees and workers have control over the processes of completing their tasks.	1	5	3.009	-0.913	0.09
22	Employees and workers do not influence their groups on the processes of completing their tasks.	1	5	2.47	-0.891	0.451

5.4.3 Descriptive statistics and normality test for strategy

As shown in Table 5.6, descriptive statistics of strategy showed the means arranged between 2.0 and 3.0. This finding implies that the general answers lean toward selecting one of the answers, namely, Disagree. Skewness and kurtosis values are in the range indicating the normal distribution of data. Therefore, the data are useable for further analysis using the SEM analysis technique.

Table 5.5
Descriptive statistics and normality test for Strategy measurement items

No	Item	Min.	Max.	Mean	Kurtoses	Skewness
1	The organization's vision and mission include a reference to innovation.	1	5	2.904	-1.214	0.109
2	Innovation strategy had helped the organization achieve its strategic goals.	1	5	3.017	-1.042	0.022
3	Improving administrative routine is seen as part of our innovation strategy.	1	5	2.835	-1.117	0.24
4	Internal cooperation is an important part of innovation strategy implementation.	1	5	2.13	0.086	0.93
5	Customer satisfaction is part of our innovation strategy.	1	5	2.374	-0.561	0.749
6	Improving service quality is one of our key objectives of innovation strategy.	1	5	2.191	-0.303	0.902
7	Formulating innovation strategy increases employees' skills.	1	5	2	1.08	1.178
8	Improving employees' commitment, morale, or both is part of our innovation strategy monitoring.	1	5	2.591	-0.958	0.542

5.4.4 Descriptive statistics and normality test for innovation performance

As shown in Table 5.7, the descriptive statistics of innovation performance showed the means arranged between 2.3 and 3.2. This finding implies that the general answers lean toward selecting one of the two answers, namely, Disagree and Neutral. Skewness and kurtosis values are in the range indicating the normal distribution of data. Therefore, the data are useable for further analysis using the SEM analysis technique.

Table 5.6
Descriptive statistics and normality test for innovation performance measurement items

No	Item	Min.	Max.	Mean	Kurtoses	Skewness
1	The number of new processes in our hospital has increased in the last five years.	1	5	2.365	-0.282	0.661
2	Our hospital is the first to offer new processes compared with other hospitals.	1	5	3.191	-0.849	-0.22
3	Our hospital changes and develops new processes faster than the other hospitals.	1	5	3.226	-0.972	-0.201
4	Our hospital is fast in applying new processes.	1	5	3.2	-0.863	-0.247
5	Our hospital encourages the new ideas presented to develop new processes.	1	5	3.191	-1.168	-0.103
6	Our hospital is the first to offer new services compared with other hospitals.	1	5	3.174	-0.956	-0.255
7	The number of new services in our hospital has increased in the last five years.	1	5	2.53	-0.619	0.421
8	Our hospital encourages the new ideas presented to develop new services.	1	5	2.965	-1.072	0.067
9	Our hospital changes and develops new service creation methods faster than the other hospitals.	1	5	3.165	-0.837	-0.192
10	Our hospital is faster in bringing the new services to the people using the service	1	5	3.148	-0.916	-0.07

5.4.5 Descriptive statistics and normality test for transformational leadership

As shown in Table 5.8, the descriptive statistics of transformational leadership showed means arranged between 2.50 and 2.90. This finding implies that the general answers lean toward Neutral. Skewness and kurtosis values are in the range indicating the normal distribution of the data. Therefore, the data are useable for further analysis using the SEM analysis technique. Table 5.9 shows the descriptive statistics for all the variables using the coded names.

Table 5.7
Descriptive statistics and normality test for transformational leadership measurement items

No	Item	Min.	Max.	Mean	Kurtoses	Skewness
1	Top managers of the hospital talk about the most important values and beliefs.	1	5	2.565	-0.454	0.498
2	Top managers of the hospital seek differing perspectives when solving problems.	1	5	2.896	-1.049	0.199
3	Top managers of the hospital talk optimistically of the future.	1	5	2.696	-0.875	0.377
4	Top managers of the hospital proudly associate themselves with their employees.	1	5	2.696	-0.873	0.312
5	Top managers of the hospital talk enthusiastically of the expected accomplishments.	1	5	2.696	-0.877	0.324
6	Top managers of the hospital specify the importance of having a strong sense of purpose.	1	5	2.948	-1.272	0.095
7	Top managers of the hospital spend time teaching and coaching.	1	5	2.974	-1.235	0.088
8	Top managers of the hospital transcend their self-interest for the good of the group.	1	5	2.783	-0.833	0.339
9	Top managers of the hospital provide each employee his/her autonomy as an individual rather than as a member of a group.	1	5	2.87	-1.191	0.198

10	Top managers of the hospital act in ways that build employees' respect.	1	5	2.826	-1.039	0.231
11	Top managers of the hospital consider the moral and ethical consequences of decisions.	1	5	2.539	-0.786	0.505
12	Top managers of the hospital display a sense of power and confidence.	1	5	2.774	-1.1	0.165
13	Top managers of the hospital articulate a compelling vision of the future.	1	5	2.53	-0.816	0.413
14	Top managers of the hospital consider each employee as having different needs, abilities, and aspirations from others.	1	5	2.878	-1.223	0.094
15	Top managers of the hospital encourage their employees to view problems from many different angles.	1	5	2.809	-1.218	0.207
16	Top managers of the hospital assist their employees in developing their own strengths.	1	5	2.904	-1.128	0.156
17	Top managers of the hospital suggest new ways of viewing the approaches to complete assignments.	1	5	2.713	-1.082	0.318
18	Top managers of the hospital emphasize the importance of having a collective sense of mission.	1	5	2.713	-1.06	0.268

Table 5.8 shows the descriptive statistics for all the variables using the coded names.

Table 5.8
Descriptive statistics for all variables

Item	Mean	Median	Min.	Max.	Kurtosis	Skewness
LDRQ18	2.713	3	1	5	-1.06	0.268
LDRQ17	2.713	2	1	5	-1.082	0.318
LDRQ16	2.904	3	1	5	-1.128	0.156
LDRQ15	2.809	3	1	5	-1.218	0.207
LDRQ14	2.878	3	1	5	-1.223	0.094
LDRQ13	2.53	2	1	5	-0.816	0.413

LDRQ12	2.774	3	1	5	-1.1	0.165
LDRQ11	2.539	2	1	5	-0.786	0.505
LDRQ10	2.826	3	1	5	-1.039	0.231
LDRQ9	2.87	3	1	5	-1.191	0.198
LDRQ8	2.783	3	1	5	-0.833	0.339
LDRQ7	2.974	3	1	5	-1.235	0.088
LDRQ6	2.948	3	1	5	-1.272	0.095
LDRQ5	2.696	3	1	5	-0.877	0.324
LDRQ4	2.696	3	1	5	-0.873	0.312
LDRQ3	2.696	2	1	5	-0.875	0.377
LDRQ2	2.896	3	1	5	-1.049	0.199
LDRQ1	2.565	2	1	5	-0.454	0.498
IN_PRD5	3.148	3	1	5	-0.916	-0.07
IN_PRD4	3.165	3	1	5	-0.837	-0.192
IN_PRD3	2.965	3	1	5	-1.072	0.067
IN_PRD2	2.53	2	1	5	-0.619	0.421
IN_PRD1	3.174	3	1	5	-0.956	-0.255
IN_PRC5	3.0191	3	1	5	-1.168	-0.103
IN_PRC4	3.2	3	1	5	-0.863	-0.247
IN_PRC3	3.226	3	1	5	-0.972	-0.201
IN_PRC2	3.191	3	1	5	-0.849	-0.22
IN_PRC1	2.365	2	1	5	-0.282	0.661
STRG8	2.591	2	1	5	-0.958	0.542
STRG7	2	2	1	5	1.08	1.178
STRG6	2.191	2	1	5	-0.303	0.902
STRG5	2.374	2	1	5	-0.561	0.749
STRG4	2.13	2	1	5	0.086	0.93
STRG3	2.835	3	1	5	-1.117	0.24
STRG2	3.017	3	1	5	-1.042	0.022
STRG1	2.904	3	1	5	-1.214	0.109
C_PRS5	2.47	2	1	5	-0.891	0.451
C_PRS4	3.009	3	1	5	-0.913	0.09
C_PRS3	2.53	2	1	5	-0.399	0.405
C_PRS2	2.4	2	1	5	-0.907	0.361
C_PRS1	2.504	2	1	5	-0.598	0.411
C_MNS4	3.043	3	1	5	-1.14	-0.033
C_MNS3	2.835	3	1	5	-0.907	0.17
C_MNS2	2.635	2	1	5	-0.686	0.277
C_MNS1	2.939	3	1	5	-1.158	0.039
C_MGO4	2.904	3	1	5	-1.071	0.274
C_MGO3	2.687	2	1	5	-1.152	0.177
C_MGO2	2.896	3	1	5	-1.023	0.027
C_MGO1	2.635	2	1	5	-0.812	0.439

C_TMO4	2.661	2	1	5	-1.038	0.184
C_TMO3	2.791	3	1	5	-0.889	0.253
C_TMO2	2.6	2	1	5	-0.466	0.503
C_TMO1	2.704	3	1	5	-0.48	0.447
C_IMO5	1.817	2	1	5	1.439	1.136
C_IMO4	1.861	2	1	5	2.092	1.418
C_IMO3	1.748	2	1	5	3.566	1.63
C_IMO2	1.687	1	1	5	1.827	1.53
C_IMO1	2.722	2	1	5	-0.769	0.39
Q_QDP5	2.583	2	1	5	-0.885	0.465
Q_QDP4	2.661	2	1	5	-0.889	0.374
Q_QDP3	2.704	2	1	5	-0.876	0.359
Q_QDP2	2.191	2	1	5	0.161	0.896
Q_QDP1	2.67	2	1	5	-0.856	0.492
Q_PRC6	3.209	3	1	5	-0.98	-0.117
Q_PRC5	2.652	2	1	5	-0.601	0.64
Q_PRC4	2.939	3	1	5	-1.066	0.143
Q_PRC3	2.957	3	1	5	-1.126	-0.001
Q_PRC2	2.974	3	1	5	-0.951	0.217
Q_PRC1	2.817	3	1	5	-0.916	0.17
Q_CNT4	2.487	2	1	5	-0.256	0.684
Q_CNT3	2.887	3	1	5	-0.976	0.102
Q_CNT2	2.748	2	1	5	-0.993	0.327
Q_CNT1	2.774	3	1	5	-0.73	0.42
Q_INF6	3.087	3	1	5	-1.085	0.061
Q_INF5	3.053	3	1	5	-1.053	0.065
Q_INF4	2.93	3	1	5	-0.977	0.134
Q_INF3	2.904	3	1	5	-1.03	0.156
Q_INF2	2.957	3	1	5	-1.075	0.22
Q_INF1	2.948	3	1	5	-1.043	0.101
Q_CSF6	3.226	3	1	5	-1.127	-0.084
Q_CSF5	3.174	3	1	5	-1.031	-0.159
Q_CSF4	2.957	3	1	5	-0.964	-0.035
Q_CSF3	2.722	3	1	5	-0.756	0.362
Q_CSF2	2.67	2	1	5	-0.438	0.464
Q_CSF1	2.87	3	1	5	-0.995	0.277
Q_SPL7	2.73	2	1	5	-1.028	0.334
Q_SPL6	3.096	3	1	5	-1.064	0.071
Q_SPL5	2.739	3	1	5	-1.083	0.25
Q_SPL4	3.252	3	1	5	-0.98	-0.241
Q_SPL3	2.93	3	1	5	-1.091	0.133
Q_SPL2	2.783	2	1	5	-0.862	0.398
Q_SPL1	3.165	3	1	5	-1.04	-0.207

Q_TM4	2.783	3	1	5	-1.029	0.232
Q_TM3	2.861	3	1	5	-1.075	0.126
Q_TM2	3.13	3	1	5	-1.158	-0.1
Q_TM1	1.974	2	1	5	0.637	1.097
Q_TRN4	3.183	4	1	5	-1.411	-0.222
Q_TRN3	2.539	2	1	5	-1.038	0.429
Q_TRN2	2.687	3	1	5	-1.195	0.194
Q_TRN1	2.565	2	1	5	-1.046	0.382

CLTR: Culture, QMPs: Quality Management Practices, INNO, innovation performance, STRG: Strategy, TRAL: Transformational leadership

5.5 Respondent characteristics

The characteristics of the respondents show the main criteria that included in the questionnaire to address their demographic aspects. In this study, there were two main questions that used to address the respondent: number of years in the current position and the location of the hospital.

5.5.1 Number of years in the current position

As shown in Figure 5.1, the demographic characteristics of the respondents demonstrate that around 42% of the directors who participated in the questionnaire have spent between one and three years in their current position and around 22% have spent over ten years in the current position. These indicate the variation between the given answers to the questionnaire. The 22% are the most experienced directors. In other words, 23 from the 115 collected questionnaires were filled by expert directors who spent more than 10 years in the current position.

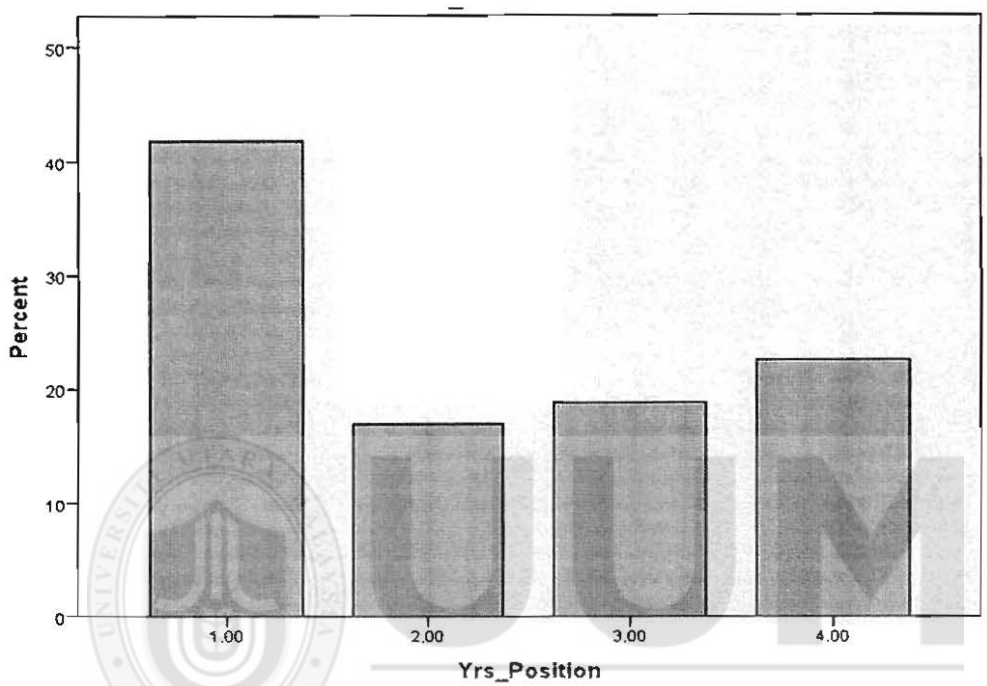

Figure 5.1
Number of years in the current position

5.5.2 Location of the hospital

Figure 5.2 reveals that the Riyadh area demonstrated the highest percentage, with a total of 47 hospitals, of all the hospitals that participated in the questionnaire. Hospitals of Jedda are the second highest area that participated in the study with a percentage of 9% of the total participating hospitals. This is because Riyadh area is the biggest area among KSA administrative areas in term of population and number of hospitals.

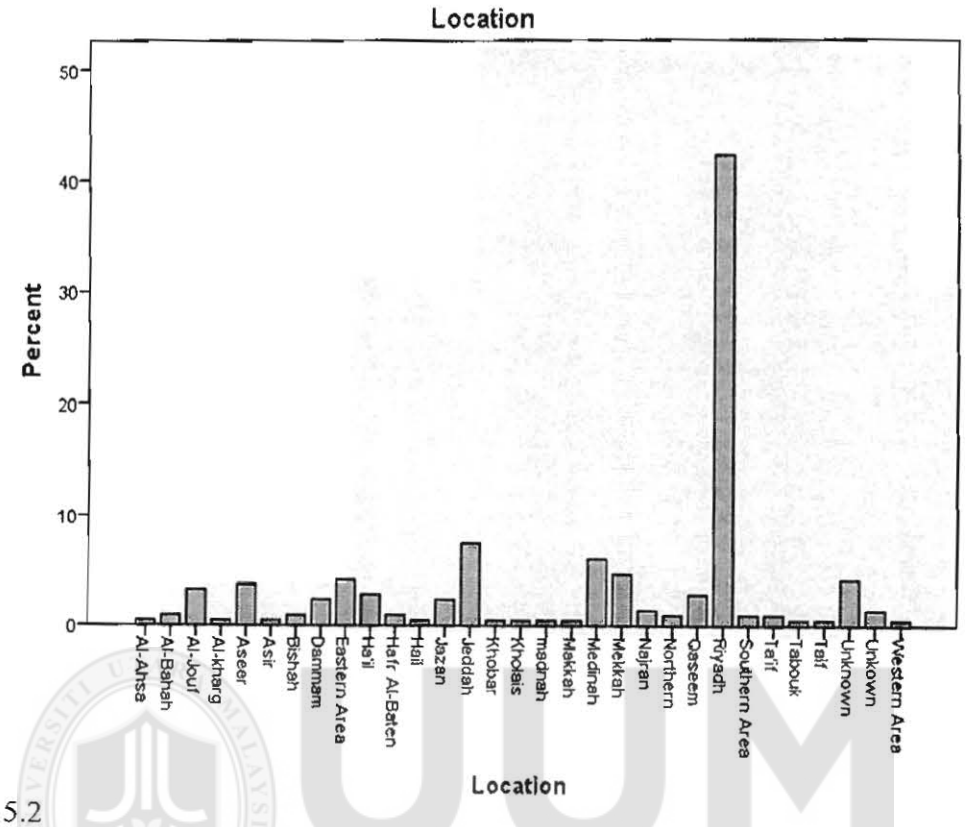

Figure 5.2
Location of the hospital

5.6 Testing the measurement model (outer model) using the PLS SEM approach

The measurement model (or the outer model) was run and assessed using the PLS-SEM technique before testing the hypothesized relations in the current study. In assessing the measurement model, this study followed the general two-step approach proposed by Anderson and Gerbing (1988). Assessing the measurement model should be conducted to check and ensure that the measurement items used in the questionnaire indeed measure their constructs (Awang, 2012; Hair et al., 2010; Kline, 2011). In SEM analysis, assessing the measurement model generally starts with a confirmation of the measurements by conducting a confirmatory factor analysis (CFA). The CFA (or the measurement model) is assessed based on the Goodness of Fit Indices (GOF) (Awang, 2012; Byrne, 2010; Hair et al., 2010).

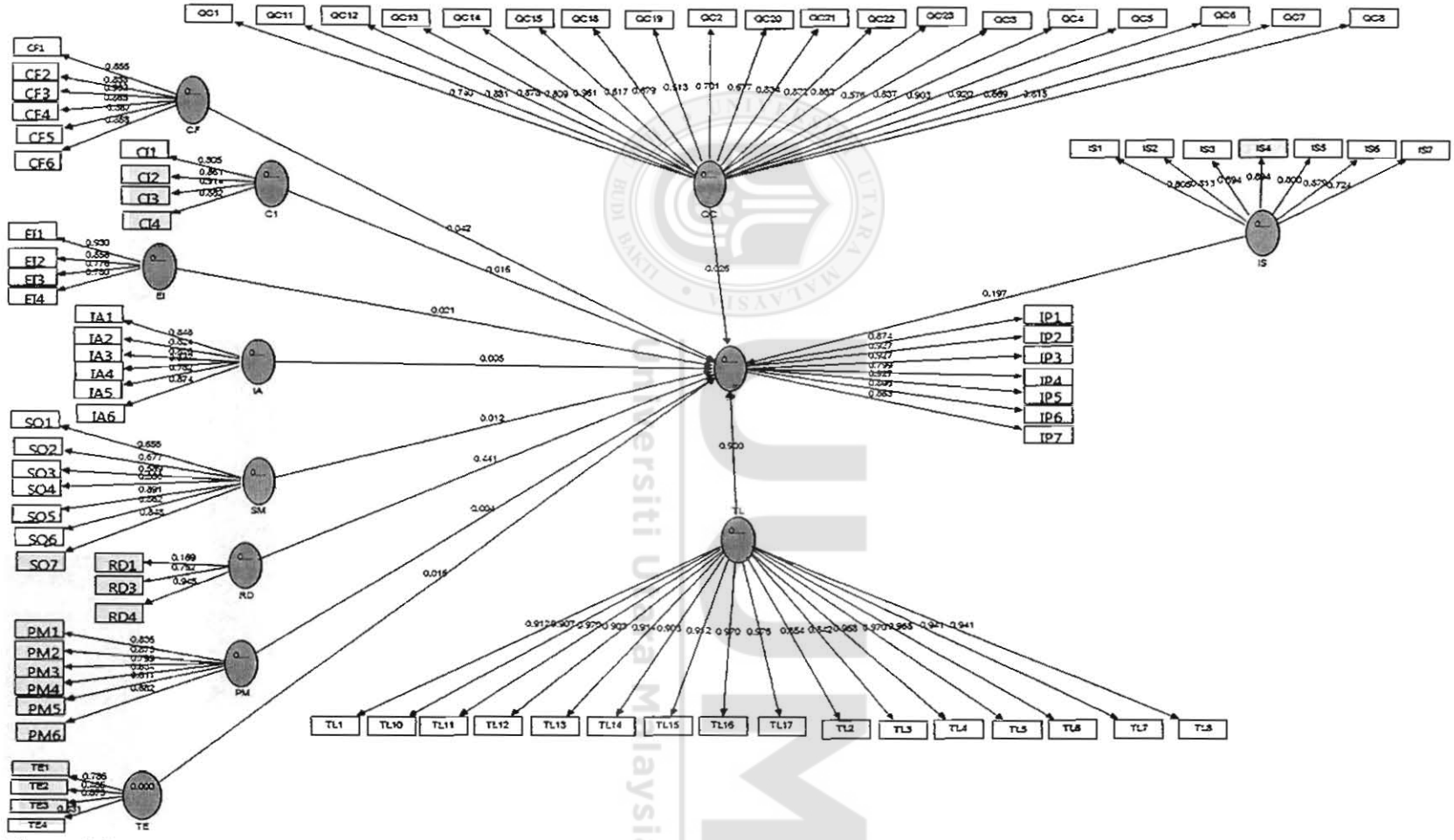

Figure 5.3
Measurement model

Table 5.9
Factor loading in the measurement model

	CI	CF	EI	IA	IP	IS	PM	QC	RD	SM	TE	TL
CI1	0.8053											
CI2	0.8611											
CI3	0.9141											
CI4	0.8816											
CF1		0.8548										
CF2		0.8385										
CF3		0.9022										
CF4		0.8650										
CF5		0.8873										
CF6		0.8583										
EI1			0.9296									
EI2			0.8576									
EI3			0.7782									
EI4			0.7799									
IA1				0.8479								
IA2				0.8243								
IA3				0.8256								
IA4				0.8472								
IA5				0.7818								
IA6				0.8735								

Table 5.9 (continued)

IP1	0.8738			
IP2	0.9271			
IP3	0.9271			
IP4	0.7991			
IP5	0.9271			
IP6	0.8958			
IP7	0.8626			
IS1		0.8052		
IS2		0.8130		
IS3		0.8939		
IS4		0.8939		
IS5		0.7996		
IS6		0.8790		
IS7		0.7245		
PM1			0.8356	
PM2			0.8728	
PM3			0.7986	
PM4			0.8337	
PM5			0.8114	
PM6			0.6824	
QC1				0.7403
QC11				0.8806
QC12				0.8783
QC13				0.8090

Table 5.9 (continued)

QC14	0.9613		
QC15	0.6166		
QC18	0.6792		
QC19	0.6131		
QC2	0.7006		
QC20	0.6765		
QC21	0.8345		
QC22	0.8725		
QC23	0.8622		
QC3	0.5763		
QC4	0.6368		
QC5	0.9030		
QC6	0.9200		
QC7	0.6687		
QC8	0.8152		
RD1		0.6689	
RD3		0.7615	
RD4		0.9447	
SQ1			0.65527
SQ2			0.67702
SQ3			0.58904
SQ4			0.55038
SQ5			0.89117
SQ6			0.86159

Table 5.9 (continued)

SQ7	0.84804		
TE1		0.785831	
TE2		0.484533	
TE3		0.872965	
TE4		0.830943	
TL10			0.9066
TL11			0.9705
TL12			0.9026
TL13			0.9142
TL14			0.9029
TL15			0.9116
TL16			0.9705
TL17			0.9764
TL2			0.8537
TL3			0.8425
TL4			0.9581
TL5			0.9700
TL6			0.9677
TL7			0.9411
TL8			0.9411

EI: Employee Involvement, CF: Customer Focus, RD: Role Of Quality Department, SQ: Strategic Management, QC: Quality Culture, IS: Innovation Strategy, TL: Transformational Leadership, PM: Process Management. IA: Information and Analysis. CI: Continues Improvement TE: Training and Education.

5.6.1 Construct Validity

After assessing the GoF of the measurement model, construct validity should be conducted to ensure the statistical requirement before testing the hypotheses in the structural model. Construct validity is assessed by assessing convergent validity and discriminant validity. Convergent validity of the constructs is assessed by calculating the Average Variance Extracted (AVE) and by calculating construct reliability (CR). To ensure the convergent reliability, AVE should be greater than 0.5, and CR should be greater than 0.6 (Hair et al., 2010). Based on the AVE and CR values calculated shown in Table 5.11, convergent validity of the constructs in this study was confirmed. Cronbach's alpha. Composite Reliability, and Average Variance Extracted (AVE) achieved the respective values. Discriminant validity is assessed by calculating the squared root of construct AVE (Fornell & Larcker, 1981). As shown in Table 5.12, the discriminant validity of all constructs was confirmed by placing the squired root of the AVE at the diagonal elements of the correlation matrix. All squared roots of the AVEs are higher than their respective correlations. The correlation between any two constructs should also not exceed 0.9; otherwise, one of the two constructs should be deleted.

Table 5.10
Convergent validity

	AVE	Composite Reliability	Cronbach Alpha
C1	0.7507	0.9232	0.8895
CF	0.7533	0.9482	0.9356
EI	0.7037	0.9043	0.8807
IA	0.6954	0.9319	0.9132
IP	0.7895	0.9632	0.9551
IS	0.6920	0.9399	0.9263
PM	0.6528	0.9182	0.8931
QC	0.5304	0.9607	0.9583
RD	0.5003	0.7011	0.4307
SM	0.5420	0.8892	0.8838
TL	0.6142	0.9670	0.9566
TE	0.5762	0.7980	0.5762

EI: Employee Involvement, CF: Customer Focus, RD: Role of Quality Department, SQ: Strategic Management, QC: Quality Culture, IS: Innovation Strategy, TL: Transformational Leadership, PM: Process Management. IA: Information and Analysis. CI: Continues Improvement TE: Training and Education

Table 5.11
Discriminant validity of the constructs

	CI	CF	EI	IA	IP	IS	PM	QC	RD	SM	TE	TL
CI	1.0000											
CF	0.7894	1.0000										
EI	0.7195	0.8158	1.0000									
IA	0.7799	0.8372	0.7892	1.0000								
IP	0.1289	0.0865	0.0356	0.8132	1.0000							
IS	0.1245	0.1342	0.0516	0.1313	0.8544	1.0000						
PM	0.8298	0.7368	0.6956	0.7503	0.1479	0.0989	1.0000					
QC	0.1245	0.1028	0.0506	0.1199	0.9443	0.9326	0.8287	1.0000				
RD	0.1793	0.1690	0.0952	0.1864	0.7258	0.8399	0.1494	0.8290	1.0000			
SM	0.7212	0.8352	0.7817	0.7743	0.0971	0.1175	0.6948	0.1100	0.8794	1.0000		
TE	0.1362	0.1012	0.0562	0.1173	0.9522	0.7904	0.1605	0.8809	0.5337	0.0933	1.0000	
TL	0.1362	0.1012	0.0562	0.1173	0.9522	0.7904	0.1605	0.8809	0.5337	0.0933	0.0624	1

EI: Employee Involvement, CF: Customer Focus, RD: Role Of Quality Department, SQ: Strategic Management, QC: Quality Culture, IS: Innovation Strategy, TL: Transformational Leadership, PM: Process Management. IA: Information and Analysis. CI: Continues Improvement TE: Training and Education

5.7 Structural model and hypothesis testing of QMPs and innovation performance H1

H1: *QMPs positively affects innovation performance at hospitals in the KSA.*

As shown in Figure 5.4 and Table 5.13, QPM significantly affects innovation performance with a critical ratio t-value of 18.75 and a p value less than .001. Therefore, Hypothesis H1 was supported.

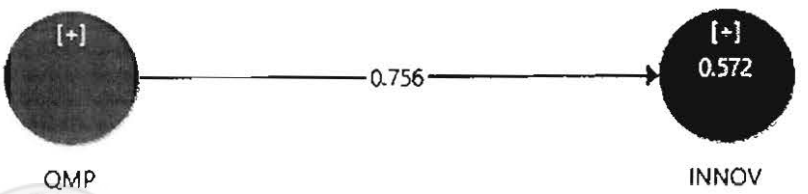

Figure 5.4
Effect of QMPs on innovation performance

Table 5.12
Testing hypothesis H1

Hypotheses	Beta	T-Value	P	
QMPs → INNOV	0.756	18.75	0.000***	Supported

5.8 Structural model and sub-hypothesis testing of H1a to H1h

H1a: *The role of the quality department positively affects innovation performance at hospitals in the KSA.*

H1b: *Process management positively affects innovation performance at hospitals in the KSA.*

H1c: *Continuous improvement positively affects innovation performance at hospitals in the KSA.*

H1d: *Information and analysis positively affect innovation performance at hospitals in the KSA.*

H1e: *Customer focus positively affects innovation performance at hospitals in the KSA.*

H1f: *Strategic quality planning positively affects innovation performance at the hospitals in KSA.*

H1g: *Employee involvement positively affects innovation performance at the hospitals in KSA.*

H1h: *Training and education positively affect innovation performance at hospitals in KSA.*

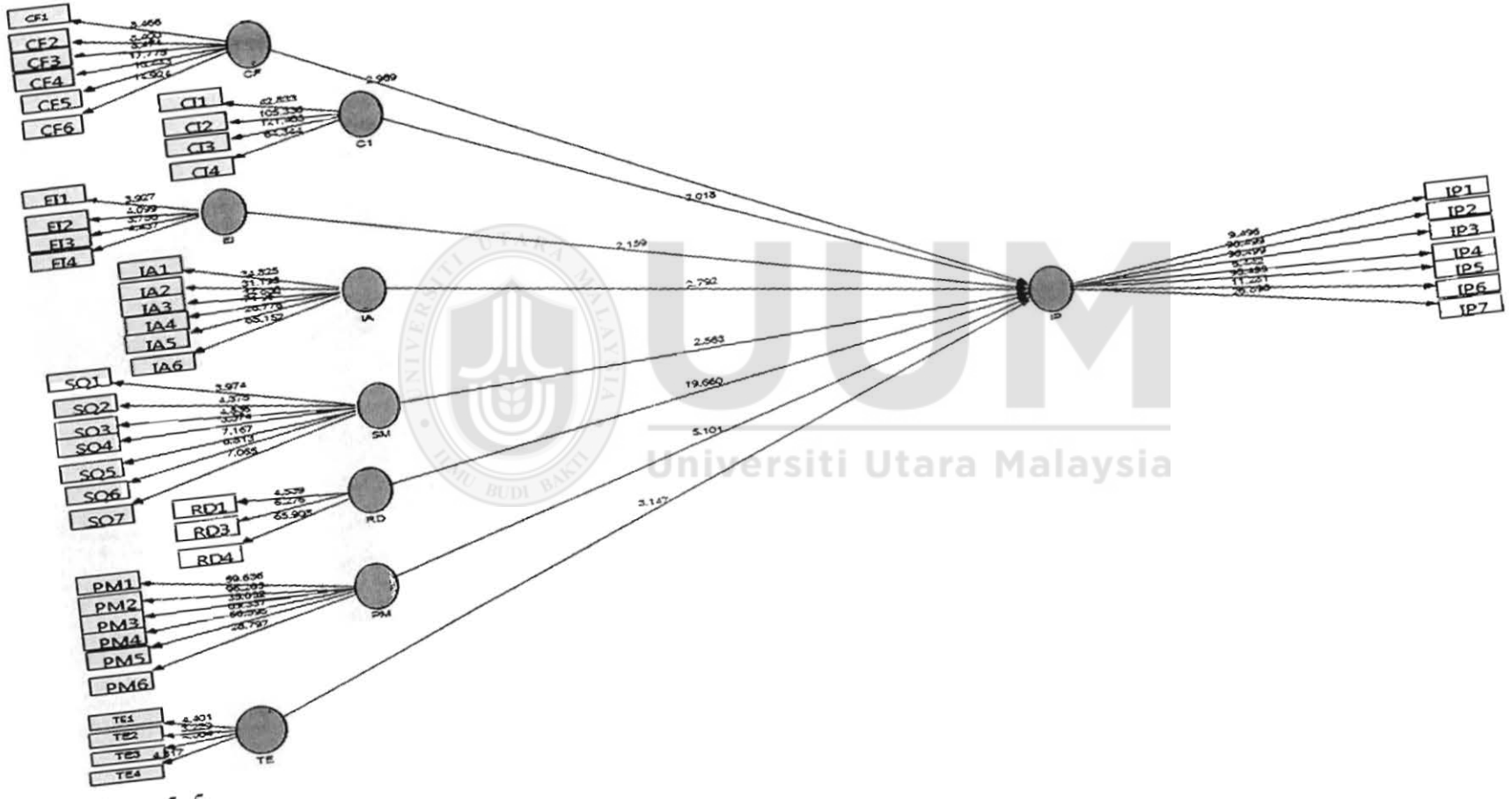

Figure 5. 5
Testing hypothesis H1

Table 5. 13
Testing hypothesis H1

Relationship	Original sample	Std. Error	T Statistics	P -Value	Significance
C1 -> IP	0.0280	0.0140	2.0178	0.00**	supported
CF -> IP	0.0980	0.0410	2.9686	0.00**	supported
EI -> IP	0.0260	0.0220	2.1593	0.00**	supported
IA -> IP	0.0200	0.0150	2.7922	0.00**	supported
PM -> IP	0.1800	0.0360	5.1010	0.00**	supported
RD -> IP	0.7740	0.0370	19.6602	0.00**	supported
SM -> IP	0.0240	0.0130	2.5630	0.00**	supported
TE -> IP	0.1001	0.0318	3.1474	0.00**	supported

EI: Employee Involvement, CF: Customer Focus, RD: Role of Quality Department, SQ: Strategic Management, QC: Quality Culture, IS: Innovation Strategy, TL: Transformational Leadership, PM: Process Management. IA: Information and Analysis. CI: Continues Improvement TE: Training and Education.

The bootstrapping concluded that quality management practices effects on the innovation performance in KSA hospitals. As shown in figure 5.5 and Table 5.14, testing the sub-hypotheses were conducted by separately testing the effect of each single practice of the QMPs with innovation performance. The sub dimension of quality practices (Process management, Training and education, Teamwork and Role of Quality department, Information analysis, Strategic planning, Customer focus and Continuous improvement) showed significant impact on innovation performance in KSA hospitals. Therefore, all the hypotheses H1a, H1b, H1c, H1d, H1e, H1f, and H1g, and H1h were supported.

5.9 Structural model and hypothesis testing of Mediating relationships H2

5.9.1 Testing Hypothesis H2: the mediating role of quality culture

H2: *Quality culture mediates the relationship between QMPs and innovation performance of hospitals in the KSA.*

As shown in Figure 5.6 and Table 5.15, with the mediation of quality culture variable, the effect of QPM remains significant even after it was reduced from .79 to .49 with a t-value of 5.12 and a p value less than .001. Therefore, quality culture does play a partial mediation role in the relationship between QMPs and innovation performance (Awang, 2015). Hypothesis H2 was supported.

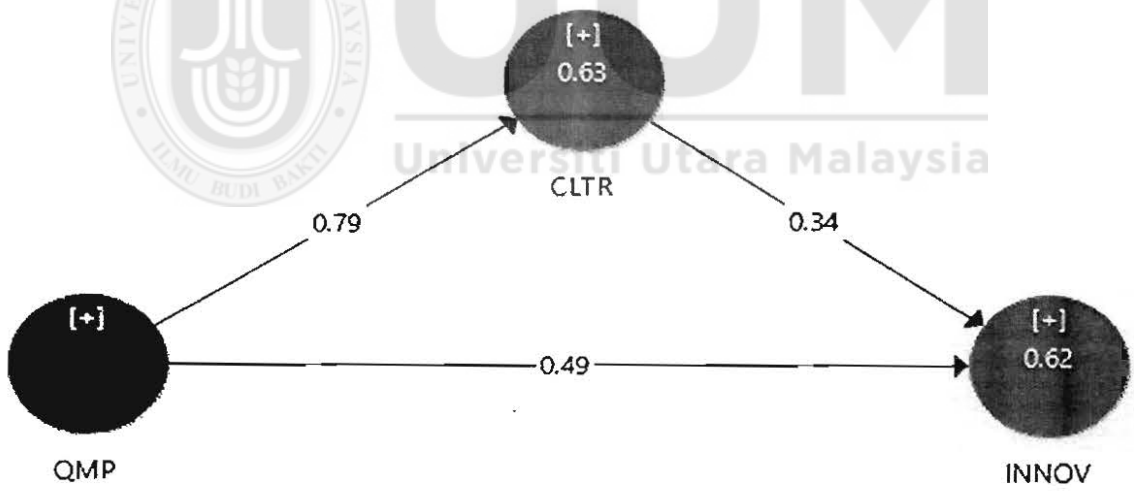

Figure 5.6
Mediating role of quality culture

Table 5.14
Testing hypothesis H2

Hypotheses	Estimate	t-Value	P	Significance
Quality mgt. practices → Quality culture	0.79	28.08	***	Significant
Quality culture → Innovation performance	0.34	3.84	***	Significant
Quality mgt. practices → Innovation performance	0.49	5.12	***	Significant

*** P<0.001 ** P<0.01

5.9.2 Testing Hypothesis H2: the mediating role of strategy H3

H3: *Innovation strategy mediates the relationship between QMPs and innovation performance.*

As shown in Figure 5.7 and Table 5.16, the mediation of innovation strategy, which is the effect of QPM remaining significant even after it was reduced from .80 to .44 with t-value of 3.88 and p value less than .001. Therefore, innovation strategy has a partial mediation role in the relationship between QMPs and innovation performance (Awang, 2015). Hypothesis H3 was supported.

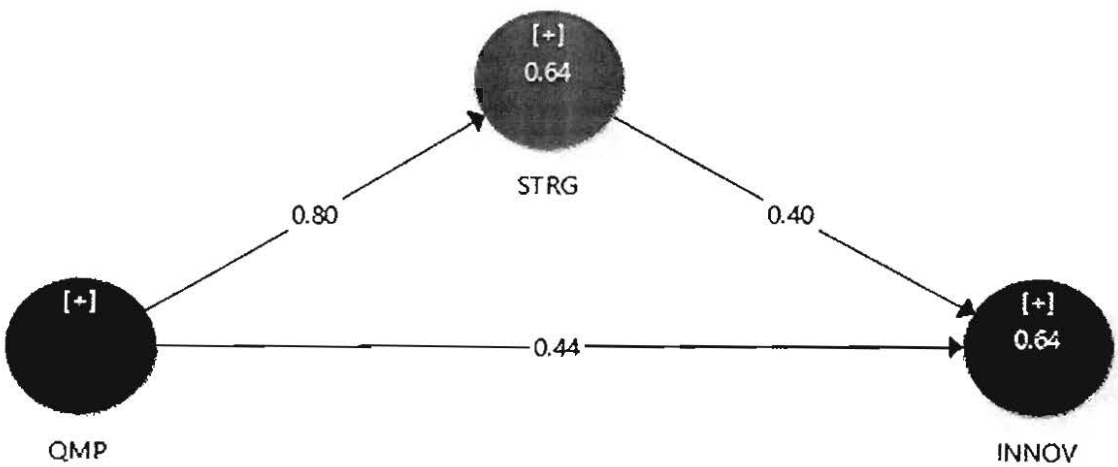

Figure 5.7
Mediating role of innovation strategy

Table 5.15
Testing hypothesis H3

Hypotheses	Estimate	T-Value	P	Significance
Quality mgt. practices→ Innovation strategy	0.80	20.69	***	Significant
Innovation strategy → Innovation performance	0.4	3.51	***	Significant
Quality mgt. practices → Innovation performance	0.44	3.88	***	Significant

*** P<0.001

5.10 Testing mediating roles of both mediators

As shown in Figure 5.8 and Table 5.17, regarding the mediation of quality culture and innovation strategy, the effect on QMPs remains significant even after it was reduced from .79 to .46 with t-value of 3.99 and p value less than .001. Therefore, quality culture and innovation strategy both play a partial mediation role in the relationship between QMPs and innovation performance.

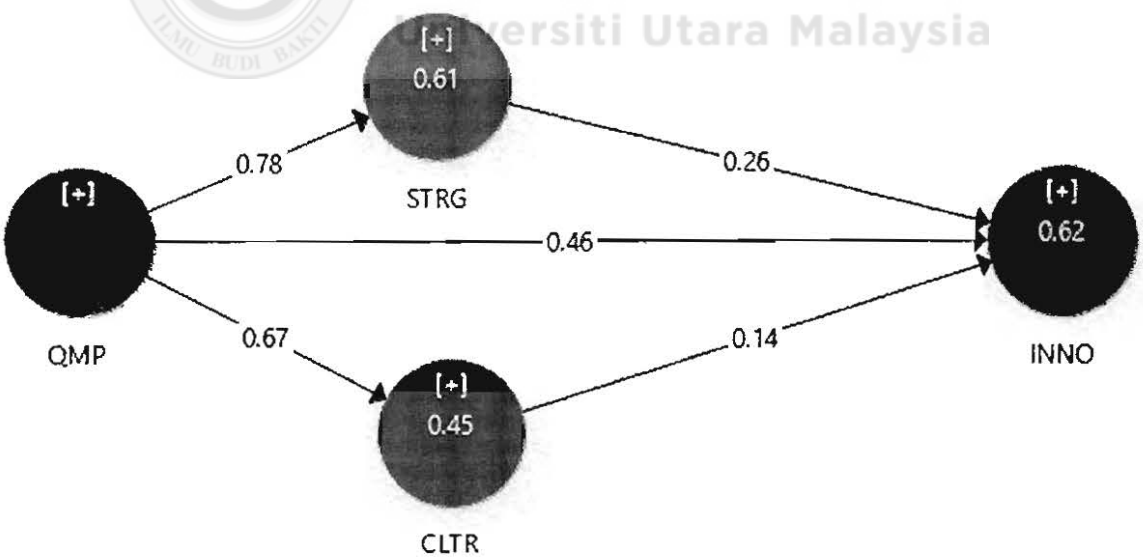

Figure 5.8
Mediation role of both culture and innovation strategy

Table 5.16
Testing the mediation role

Hypotheses	Beta	T-value	P-value	Significance
Quality mgt. practices → Quality culture	0.67	14.923	***	Significant
Quality culture → Innovation performance	0.14	1.497	0.13	Insignificant
Quality mgt. practices → Innovation strategy	0.78	2.241	0.02	Significant
Innovation strategy → Innovation performance	0.26	2.241	0.02	Significant
Quality mgt. practices → Innovation performance	0.46	3.982	***	Significant

*** P<0.001 ** P<0.01

5.11 Structural model and hypothesis testing of Moderating relationships

H4: *Transformational leadership moderates the relationship between QMPs and innovation*

PLS analyzes the moderating variables through an easy and simple step implemented by identifying which variable is the moderator. As shown in Figure 5.9, the moderation effect of transformational leadership is significant, and the estimation is 0.22. Thus, hypothesis H4 was supported.

Table 5.17
Moderation effect

Hypotheses	Beta	t-Value	P	Significance
Quality Mgt. Practices → Innovation strategy	0.53	7.44	***	Significant
Transformational leadership →Innovation performance	0.22	4.46	***	Significant
Moderation effect	0.22	3.30	***	Significant

*** P<0.001

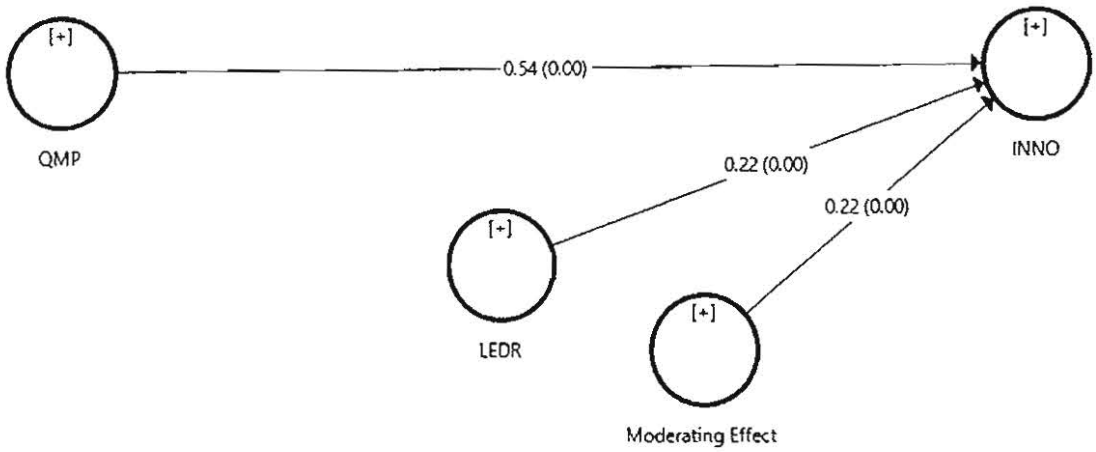

Figure 5.9
Moderation effect of transformational leadership

5.12 Model goodness of Fit

PLS-SEM has only one measure of GoF. As proposed by Tenenhaus et al. (2005), GoF for the PLS path model is the calculated mean of the average communality and average R2 for all endogenous constructs. Thus, GoF measure considers the AVE of the model. Wetzelset al. (2009) recommended calculating the GoF using the following formula:

As shown in Table 5.19, the obtained GoF value was 0.63. The comparison was based on the roles of small GoF = 0.1, medium GoF = 0.25, and large GoF = 0.36 as suggested by Wetzels et al. (2009). The obtained GoF indicates a sufficient level of PLS model validity.

Table 5.18
Moderation effect of transformational leadership

Construct	R Square	Average Variance Extracted (AVE)
Quality Culture	0.45	0.63
Quality Mgt. Practices	0.56	0.73
Innovation Performance	0.68	0.73
Innovation Strategy	0.61	0.61
Transformational Leadership	0.32	0.71
Average	0.58	0.68
GoF		0.63

Several indices are used to indicate the level of fitness in the CFA. In SEM, many indices show the goodness-of-fit. The GOF are generally categorized into two main groups, namely, absolute fit index group and incremental fit index group (Byrne, 2012).

SEM also uses numerous other indicators of GoF. The Chi-square (x^2), Root mean square error of approximation (RMSEA), goodness fit index (GFI), and adjusted goodness-of-fit index (AGFI) are absolute fit indices. Chi-square (x^2) is the most used indicator of these category (Awang, 2012; Byrne, 2010; Hair et al., 2010). The incremental fit index group is as follows: AGFI, Comparative Fit Index (CFI), None normed fit index (NNFI), and Standardized Root Mean Square Residua (SRMR). Using multiple GOFs is required to indicate the fitness of a measurement model (Awang, 2012; Byrne, 2010; Hair et al., 2010). Examples of multiple GOFs include chi-square statistic (X^2), normed chi-square (NC), RMSEA, GFI, and CFI. Table 5.20 shows a summary of threshold values of these GOFs. These thresholds are only a rule-of-thumb and may not be generalized across studies with regard to their sample size, model complexity, and normal data distribution (Hair et al., 2010; Kline, 2011).

Table 5.19
Threshold of GOF

Index	Acceptance value
Absolute fit indices	
Chi-square (x^2)	P > 0.05
Goodness-of-Fit (GFI)	.90 or greater
Root Mean Square Error of Approximation (RMSEA)	Between .040 and .080
Incremental fit indices	
Adjusted goodness-of-fit index (AGFI)	.90 or greater
Comparative Fit Index (CFI)	.90 or greater

To enhance the fit of the model, very few number of measurement items were deleted because of the low factor loading (less than .5). The number of deleted items should not reach 20% of the total of the measurement items in the model (Hair et al., 2010); otherwise, the model will be affected. Figure 5.3 shows the path model of the study. As summarized in Table 5.10, all the factors of QMPs, quality culture, innovation strategy, process innovation, product innovation, and transformational leadershipwere assessed and a factor loading over 5 was achieved.

5.13 Summary

This chapter illustrated all the steps, techniques, and results of data analysis. The data were entered into SPSS and cleaned from missing and outlier cases. Reliability test was run to ensure the data were reliable. Non-response common bias was tested. Then, normal distribution assumption was tested, and the data were found ready for analysis in the further steps. Descriptive statistics was illustrated in tables, which showed the characteristics of the data. The data's subsequent confirmation for the technical representation of the measure with their constructs was conducted by implementing the measurement model assessment technique. In the measurement models of the constructs,

factor loadings, GOFs, and validities were tested and confirmed for the next step of the analysis. Lastly, structural model was run to test the hypotheses. Results of the tested hypotheses were shown and illustrated.

CHAPTER SIX

CONCLUSION

6.1 Introduction

This chapter summarizes and discusses the outcomes of the current research, which aimed at examining the hurdles and identifying the issues that could lead to good quality management practices in Saudi Arabia's public hospitals. In addition, this chapter concludes the findings that can be drawn from this research. In the final part of the chapter, the overall contribution of theory and practice, along with the limitations and potential for future research, are discussed.

6.2 Summary of the findings

In the previous chapter, the results of PLS SEM analysis showed that the construct QMPs positively affect innovation performance in the Saudi hospitals. The results of the analysis also showed that all QM practices significantly affect innovation performance when separately tested. With regard to the mediation roles of quality culture and innovation strategy, the analysis proved that both variables have a partial mediation role in the relationship between QMPs and innovation performance. Finally, the results of the analysis showed that transformational leadership moderates the relationship.

The study comprised the following four main objectives: to examine the effect of QMPs (Training and education, Employee involvement, Strategic quality planning, Customer focus, Information and analysis, Continuous improvement, Process management, Role of the quality department) on innovation performance in hospitals in KSA; to examine the

mediating role of quality culture (Personal Influence/ Performance, Management Style, Mission and Goals Orientation, Teamwork Orientation, Improvement orientation) between QMPs and innovation performance in hospitals in KSA; to examine the mediating role of innovation strategy in the relationship between QMPs and innovation performance in hospitals in KSA; and to examine the moderating role of transformational leadership on the relationship between QMPs and innovation performance. All objectives were achieved by achieving the described results. Table 6.1 summarizes the findings and assesses the objective achievement.

Table 6.1
Summary of the findings

Objectives		Hypotheses			Dicision
Objective one	H1	QMPs	→	Innovation performance	Supported
	H1*a*	Information analysis	→	Innovation performance	Supported
	H1*b*	Process management	→	Innovation performance	Supported
	H1*c*	Training and education	→	Innovation performance	Supported
	H1*d*	Employee involvement	→	Innovation performance	Supported
	H1*e*	Strategic planning	→	Innovation performance	Supported
	H1*f*	Customer focus	→	Innovation performance	Supported
	H1*g*	Role of Quality department	→	Innovation performance	Supported
	H1*h*	Continuous improvement	→	Innovation performance	Supported
Objective two	H2	The mediation role of quality culture on the relationship between QMPs and innovation performance			Supported
Objective three	H3	The mediation role of innovation strategy on the relationship between QMPs and innovation performance			Supported
Objective four	H4	The moderation role of transformational leadership on the relationship between QMPs and innovation performance			Supported

6.3 Discussion

6.3.1 QMPs and innovation performance

As shown in Table 6.1, the effect of the combined QMPs on innovation performance in Saudi hospitals is significant. This finding is consistent with the RBV theory. As the theory emphasized that efficient utilization of both intangible and tangible organizational resources such as quality management practices (e.g. experience from training and education, strategic planning and information analyses etc.) determine the good performance of an organization (Barney, 1991). Also, the finding is in line with Moreno et al. (2011), Kim et al. (2012), Krivokapic et al. (2013), Hernández et al. (2013), Long et al. (2015), and Kafetzopoulos et al. (2015) that indicated the positive relationships between QMPs and innovation.

The findings have supported the view that QMPs have an impact on increasing innovation through their effect on the orientation to innovation in an organization. In Saudi hospitals the management QM has supported the creation and the developing innovation culture that generated the orientation to innovation. Based on the previous findings in the literature there are many factors help in supporting the culture of innovation. Examples of these factors are recognition and decentralization (Moreno et al., 2011). In Saudi hospitals those factors create an environment that directs the organization toward innovation culture that boosts innovation performance. The view further argues that QM is an innovation supporter and creator. QM in hospitals of KSA supports and creates innovation through influencing the orientation to innovation. Hence, QM is positively influences innovation performance in different levels: the creation level, the

performance level, the integration level, and innovation output level (Arshad & Su, 2015; Lee, 2015; Fernandes et al., 2014; Moreno et al., 2011; Kim et al., 2012).

6.3.2 Employee involvement, Training and education and innovation performance

As shown in Table 6.1, the effect of employee involvement practices on innovation performance in Saudi hospitals is significant. This finding supported the findings of Pikovic and Galia (2009), Kim et al. (2012) and Fernandese, Lorenco, and Silva. (2014). They stated a positive relationship between employee involvement practices and innovation. Apart from employee involvement practices, training and education practices have also shown positive impact on innovation performance. These findings also supported the findings of Pikovic and Galia (2009), Kim et al. (2012) and Fernandese, Lorenco, and Silva (2014). Employee involvement, training and education practices are under the practices of people management. Managing people is one of the main QM principles.

Therefore, indicating the positive effect of these practices shows the overall positive role of QMPs on innovation performance in the Saudi hospitals. Employee involvement practices allow individuals to cooperate and come up with innovative and creative ideas enhancing performance (Schniederjans & Schniederjans, 2015). In the context of Saudi hospitals, such people management practices are crucial for performance and innovation performance because hospitals are pure service organizations, where human interactions present the main platform of communication and delivering services.

Providing employees with adequate technical and administrative trainings related to their work tasks enhances innovations. Given that hospitals are service organizations,

implementing QM systems depends more on human contributions and participation. Any resistance to innovations by the involved people may significantly affect the outcomes of QM implementation. Another explanation of the positive effect of training and education on innovation performance can be formulated within the supportive role of top management. Apart from the top managers, training front-desk employees in service organizations (e.g., hospitals) can explain the positive impact of training and education on innovation performance. The direct interactions between the employees and customers help the employees deal with customer satisfaction more effectively.

6.3.3 Role of quality department and innovation performance

As shown in Table 6.1, the influence of the role of quality department practices on innovation performance in Saudi hospitals is significant. This finding supported the findings of Sivasankar (2013) on the importance and positive need for the role of quality department at hospitals. The role of the quality department in hospitals should link and coordinate the management and workers in all departments. This role is generally grounded on the following statement: quality should be controlled and fixed by regulations rather than by the customers.

The positive impact of the role of quality department on innovation found in the study can be explained as follows: the quality department represents the continuous improvement and the customers on innovation in the hospital by following, redirecting, and controlling the operation, as well as satisfies the need of the customers. Furthermore, the managerial role of the quality department presents the direct control of the top

managers on QM implementation. This crucial role of the quality department in hospitals assists in developing the belief of achieving quality foster innovation performance.

6.3.4 Process management and innovation performance

As shown in Table 6.1, process management practice has a significant positive effect on innovation performance in Saudi hospitals. These findings have supported the findings of Perdomo-Ortiz et al. (2009), and Yusr, Mokhtar, and Osman (2015) in the positive relationship between process management and innovation performance. The positive effect shown between process management practices and innovation in hospitals indicates the effective management and leadership and effective top management support, cooperative middle-management in implementing changes, high priority for quality improvement, and effective handling of healthcare services (Mosadeghrad, 2013).

Process management helps build health-service capabilities of the hospitals, where process management practices address the continuous improvement and prevention of the service failure by productively employing the related system, performance, and technology data. Process management in Saudi hospitals likewise has an effective ability to transform the output of hospital departments into other departments determined to tackle poor performance. This organizational mechanism will positively enhance the overall capability of the organization (Yusr et al., 2015; Arshad & Jiaotong, 2015).

Furthermore, addressing the failure and success records shall advance employees' learning capabilities. Therefore, process management develops and enhances the organization capabilities by assisting innovation performance capability (Perdomo-Ortiz et al., 2009). Moreover, managing the processes assists in forming the documentation and

records of processes, proper work environment, and a culture of failure prevention, which are important processes in building innovation capabilities and enhancing innovation performance (Yusr et al., 2015).

6.3.5 Information and analysis and innovation performance

As shown in Table 6.1, the effect of information and analysis practices on innovation performance in Saudi hospitals is significant. This finding partially contradicts the findings of Ooi et al. (2012) in their results showing no positive relationship between information analysis and innovation performance. The positive relationship between information and analysis practice and innovation performance indicates the effective use of the collected information from customers. Information and analysis play important roles in hospitals because of their high dependency on human (staff, customers, and suppliers) in the daily process.

Hospitals daily operation is characterized by high interactions and communications between the working staff and the customers. The high human involvement in the hospital services increases the role of exchanging and sharing the information between the hospitals and their customers and between the hospitals and their suppliers. Furthermore, the importance of analyzing the collected information before and after the process of sharing is critical in decision making. For example, hospitals can implement a survey regarding customer satisfaction to make decisions accordingly.

Another possible explanation of the significant relationship between information and analysis on innovation performance can be constructed around the practice of benchmarking. Benchmarking is a fixed measure in information and analysis practices

(Sanjay Ahire et al., 1996). Saudi hospitals are directly supervised by the concerned central authority and are required to give the best of its performance. This positive pressure creates the use of information and the analysis results in a hospital compared with the performance of other hospitals, especially on the level of service quality and innovation.

6.3.6 Continuous improvement and innovation performance

As shown in Table 6.1, the relationship between continuous improvement and innovation performance is significant. The current finding supported the findings of Martínez-Costa and Martínez-Lorente (2008) in their findings that indicated a positive relationship between continuous improvement innovation. The findings of this study supported the argument postulated by numerous studies by showing the positive influence of continuous improvement on innovation when examining the effect of QM practices, such as practices of TQM; empirical studies have indicated continuous improvement practices as the most important factor leading to innovation (Krivokapic et al., 2013). Moreover, these findings are in line with the recent findings of Fernandese et al. (2014), who suggested that practices of continuous improvement positively affect innovation and its outcomes.

The significant direct relationship between continuous improvement practices and innovation performance in Saudi hospitals can be explained as follows: continuous improvement as a holistic approach, concerns the monitoring and consistent proof of the results and outcomes of the QM system implementation to enhance and satisfy the necessary improvement. Continuous improvement is likewise one of the main QM

principles linking all other practices (Crosby, 1979). Therefore, the positive impact of continuous improvement is supported by the other QMPs practiced in Saudi hospitals. For example, the positive effect of process management, training, and education and teamwork found in this study can explain the effort of continuously improving the process and people management in the hospitals.

Continuous improvement is a complete approach focusing on the regular checking of the daily process and outcomes of QM solely for making decisions to improve and maintain the situation. Therefore, continuous improvement is the main QM element among other practices. According to many studies on the relationship between QM and innovation, continuous improvement was involved to explain the positive effect of the other QM practices on innovation performance (Kim et al., 2012).

Continuous improvement is further explained as important for innovation performance because the hospitals under study are public hospitals. In Saudi Arabia, the public hospitals generally set to cover vast geographical areas targeting the patients flowing from different areas. The patients come from different backgrounds, they are locals and foreigners, and they have different social and educational levels. These factors force hospital managers and employees to innovate. Managers must follow the main guides and international standards; the employees must adhere to the given process, sensitizing it with their empowerment and involvement level. The interaction between the internal human structures and processes would fail to exhibit innovation unless a good degree of incremental and radical persistence exists on continuous improvement of the process, productivity, and performance.

6.3.7 Customer focus and innovation performance

As shown in Table 6.1, the hypothesized direct relationship between customer focus and innovation performance was supported, and customer focus significantly affected innovation. This finding supported the findings of Fernandese et al. (2014), Kim et al. (2012), and Sadikoglu and Zehir (2010) in the positive impact of customer focus on innovation. This finding supported the findings of Govindarajan, Kopalle, and Danneels (2011) in the positive effect of customer focus on innovation. This finding also supported the findings of Jiménez-Zarco, Martínez-Ruiz, and Izquierdo-Yusta (2011) on the positive relationship between customer focus and service innovation.

Saudi hospitals involved in this study are public hospitals. Each hospital is a generic hospital with healthcare departments. Those hospitals are distributed all around the kingdom. Therefore, they must follow the main directions of standardization applied by the MOH. Given that the hospitals were created for the customers, those standards are mostly supporting the customer service quality. This mechanism increases the focus on applying the standards from the perspective of increasing customer satisfaction.

The significant effect of customer focus on innovation performance can be argued on the impact of customer feedback leading to the respective person in charge. Feedback increases the level of customer interaction with the hospital to obtain the perceived service and care. In return, the employees use the suggestions of the customers to improve the service. The interaction from the two sides, namely, the customers and employees, initiate and increase innovation performance in the hospital. This finding also

implies that the good communication between the customer and the hospital employees positively influences innovation.

6.3.8 Strategic planning and innovation performance

As shown in Table 6.1, the hypothesized direct relationship between strategic planning and innovation performance was supported. Strategic planning significantly affects innovation. This finding supported the finding of Long et al. (2015) in the positive impact of strategic planning on innovation and its capability. The current findings also supported the findings of Ooi et al. (2012), who indicated the significant association between strategic planning and innovation performance.

The significant effect of strategic planning practices on innovation performance can be explained as follows: public hospitals are guided by the central strategic planning process applied by MOH. Strategic planning general practices usually concern the long-term plans extensively seeing the future in light with the current process and outcomes (Juran, 1988). Therefore, strategic planning may directly affect innovation in the hospitals because these hospitals are a fixed part of the big quality management strategic planning of the MOH.

Strategic planning consists of developing plans that can enhance, improve, and maintain the relationship with customers and suppliers to achieve the organizational objectives (Teh et al., 2009). Saudi hospitals focus on strategic practices as a significant factor to ensure achieving the planned objectives. The hospitals must provide good and high-quality services for this purpose, with both short- and long-term innovative strategic

procedures required to formulate plans, systems, and techniques to undertake the targeted mission, goals, and vision.

Generally, with regards to the RBV theory and the dimensions of quality management practices, all the findings on the influences of the dimensions of quality management practices on innovation performance are consistent with the theory. As the RBV emerged as the theory that explains firm performance based on resources that are heterogeneous as bundle of resources that give the firm a competitive advantage (Penrose, 1959). All firm's resources including tangible and intangible resources which include experience, training, judgment, skills and execution abilities of individuals within the firm. reporting structure, environmental scanning methods, cultural strength and relationships among members of the firm and its environment (Barney, 1991) are developed through quality management practices and improve performance. More specifically, all the quality management practices in this study amounts to important resources that are efficiently used to enhance hospitals performance.

6.3.9 The mediating role of quality culture

As shown in Table 6.1, quality culture has a mediating role in the relationship between QMPs and innovation performance in Saudi hospitals. In line with RBV theory (Barney, 1991), creating a culture of improving performance and achieving competitive advantage among the staff of the KSA hospital is an important pre-requisite asset for achieving innovative performance. Quality management practices created good organizational cultures branded with excellence, teamwork, profitability, honesty, customer service orientation, pride in personal work and in turn, the culture led commitment to the

organization (Baker, 1980). Moreover, these findings supported the argument that QMPs foster creating a quality culture supporting the improvement of services and products, continuous improvement, satisfaction of customers, and enhancement of competitive advantage (Peris-Ortiz et al., 2015). Specifically, QMPs enhance leadership efficiency, increase employee empowerment, increase employee involvement, support teamwork performance, and increase employee skills through continuous training (Rönnbäck & Witell, 2008). All the elements together present the main aspects of quality culture, and all these elements were found to have a positive impact on innovation performance in this study. Accordingly, it is also notably outlined that enterprises with quality focused quality culture are more effective and successful in the implementation of TQM (Hilderbrandt *et al.*, 1991). Quality culture is defined as the process of clear norms, values and belief systems that could harness a total quality behavior (**Linklow, 1989). Accrding to Deming, Juran, and Crosby (2011), organizations require healthy quality culture in order to boost performance.

Thus, quality culture in Saudi hospitals plays an effective role between QMPs and innovation. The current finding is also in line with the following argument: QM creates strong quality culture and, in turn, directs the managerial decision toward effectiveness. QMSs and quality culture create and support strong competitiveness through innovation and creativity, especially human innovation and creativity (**Hernández et al., 2013).

Furthermore, the mediating role of quality culture in Saudi hospitals is one of the main causes for QM's successful effect on innovation because of its previous association with QM application. The effort to implement QM in Saudi hospitals is useful when fixed with

the quality culture as a main plan to utilize the resources and direct the behaviors accepted by society as the process of dealing with improvement. Organizations with quality culture are determined as units having vibrant ethics and views support quality behavior and support innovation. Therefore, the entire instruments of the organization should be incorporated in its quality culture. According to Kanji et al. (1997), the important principles of QM positively influence quality culture.

Quality culture in Saudi hospital has been developed and created within the context of the managerial practices of QM and its link to innovation with regard to two main points. These points are based on the literature review. There are main two keys to successful cultural change. The first is the deal with assumptions that the organization needs changes, and the second is the assessment of the current situation the organization. Culture as a group of assumptions identify for us what to care to and what are the reaction to take in the different situations (Schein, 2004).

6.3.10 The Mediating role of innovation strategy

As shown in Table 6.1, innovation strategy has a mediating role in the relationship between QMPs and innovation performance in Saudi hospitals. Consistent with the RBV theory (Barney, 1991), innovation strategy can serve as a channel through which innovative performance can be achieved in the KSA hospitals. Similarly, both technological administrative innovations (Damanpour, 1988; Elenkov et al., 2005), which are essential for achieving innovative performance in the KSA hospitals, explains how management practices can improve performance. In the same vein, this finding supported the argument that for organizations to create and maintain a competitive advantage, they

must develop culture and innovation-oriented strategy leading to high innovation performance. Naranjo-Valencia et al. (2011) argued that innovation strategy can be the process of orienting the culture to link an organization to its innovation. Organizations using QM with leaders following innovation strategy should create a developmental culture that supports innovation strategy in their organizations (Büschgens et al., 2013).

The role of innovation strategy in the relationship between QMPs and innovation performance can be explained by the argument of Taylor and Greve (2006) that innovation strategy is composed of innovative changes used to create new products. In the case of this study, this strategy is used to create new service, namely, term of quality service innovation. Apart from Taylor and Greve (2006), Bhaskaran (2006) argues that innovation itself involves strategic practices with change and risk taking. This interaction between the strategy and innovation occurs under the umbrella of QM and its practices in Saudi hospitals, shown in terms of the intervening role through the strategy linking QMPs and innovation.

6.3.11 The Moderation effects

The result of moderation analysis showed that leadership indeed intervenes and moderates the relationship between QMPs and innovation performance in Saudi hospitals. This finding justifies the postulation of contingency theory (Fiedler, 1967) that leadership approach that is flexible with the circumstance strengthen the quality management practices and improve performance. This indicates that transformational leaders analyses current circumstances and foresee future based on creative behavior

which support the management practices and improve innovative performance (Howell and Higgins, 1990).

In relation to prior empirical evidences, these findings supported the argument of Alharbi and Yusoff (2012), who proved the positive association between QM and transformational leadership in Saudi hospitals. Apart from Alharbi and Yusoff (2012), the study of Malik and Farooqi (2013) and Kumako and Asumeng (2013) proved the same relationship. This finding is also in line with the argument of Dean and Bowen (1995) and Lakshman (2006).

Transformational Leadership concerns QM by putting QM principles into action to help innovation. For example, HRM is one of the main principles of QM while encouraging employee involvement, empowering employee, and revealing the spirit of teamwork. Provisions for trainings are likewise leadership practices that enact the QM principle during the QM system implementation. The result of study endorsing that pats study findings that transformational leadership styles provide the distant leadership that communicates to organizational members the need to refine current capabilities in existing domains and apply current knowledge (Jansen et al. 2009: 9) QMPs integrate elements of disparate styles, such as transformational , when a firm requires creativity and experimentation to confront scenarios of radical change, a transformational leadership style is probably most fitting, whereas, in more stable situations, transformational leadership style may be more appropriate, as the firm essentially pursues efficiency (Wang & Ahmed, 2007). In the same vein Saudi hospitals are considering

stable established organization whereas transformational leadership effect on both quality management practices and innovation performance of employees.

Another discussion view can be postulated that in Saudi hospitals the transformational leadership has supported both QM and innovation based on the findings that there are many studies have explained the importance of leadership as a basis for boosting the role of QM in innovation performance. Therefore, transformational leadership is a significant success factor in supporting innovation performance using QM. This applied especially when leadership is connected to the other factors of QM such as continuous customer focus.

6.4 Contribution of the study

The contributions of the study are two types: theoretical contribution and practical contribution. The theoretical contributions are the contributions that the study extended the existing knowledge while the practical contributions are the contributions that the study contributes to the managers and practitioners.

6.4.1 Theoretical contribution

This study has contributed to the body of knowledge of the healthcare sector. Healthcare plays an important role in life activities. The study provides views on the relationship among QMPs (Information analysis, Process management, Training and education, Teamwork, Strategic planning, Customer focus, Role of Quality department, and Continuous improvement), quality culture, innovation strategy, transformational leadership, and innovation performance. The views are formulated through the findings of the current study. The findings present theoretical and empirical perspectives. The

framework developed is the ideal framework based on these findings. The framework is open for theoretical and empirical verification and testing by other studies, especially those prospective studies in healthcare or in professional service organizations.

This study contributes to the theories in the fields and body of knowledge by utilizing together innovation strategy, quality culture, and transformational leadership as intervention variables in the same framework. This approach will create a view to test how strategy mediates the relationship between QMPs and innovation performance, a view to test how quality culture mediates the relationship between QMPs and innovation performance, and a view to test how transformational leadership moderates the relationship between QMPs and innovation performance.

From the theoretical contribution perspective, the study significant to the theories of Resource Base View theory (RBV) which adapted to explain the relationship between the QMPs (Exogenous) and innovation performance (Exogenous) variables. The RBV theory adapted for current study explicitly explaining and utilizing, innovation strategy, quality culture, and contingency theory to explain the relation of transformational leadership role on the relationship of QMPs and innovation performance, in the theoretical framework as moderated variable. This research approach will create a understanding to examine the innovation strategy, quality culture mediates the relationship between QMPs and innovation performance. However, a view to examine how transformational leadership moderates the relationship between QMPs and innovation performance in the light of contingency theory. Additionally, current study extended body of theoretical knowledge by exploring the transformation leadership effect on employee innovation and creativity

which ultimately effect on the innovation performance. Additionally, this study provides theoretical understanding in exploring and adding body of theoretical knowledge in the existing literature about Quality Management practices and innovation performance.

6.4.5 Practical contribution

For the managers and practitioners, this study attempted to clarify the inconsistency characterizing the relationship between QMPs and innovation performance. The study has proven that all QM practices positively affect innovation performance. These practices include process management practices, customer focus, strategic planning, continuous improvement, process management, role of quality department, training and education practices, and employee involvement. These results show that the managers of hospitals in KSA should pay more attention to the QMPs as a prerequisite to improve innovation performance which will lead to improve the services within the hospitals. On other words, these results will help managers, practitioners and other stakeholders in healthcare organizations to encourage them to adopt QMPs to effectively foster innovation.

Results of this study will be useful for managers in healthcare organizations as well as for respective authorities who are policy makers in helping them align the QMPs, innovation strategy, and quality culture as the results show that both, innovation strategy and quality culture play a mediating role on the mentioned relationship. This indicates that QMPs have indirect effect on innovation performance. Moreover, transformational leadership can be used as factor that foster the linkage between QMPs and innovation performance in hospitals. Results of this study have implications for managers and policy makers by

raising awareness of the role of transformation leadership in the significant link between QMPs and innovation performance.

The transformational leadership style examined in this study presents the accurate style in helping and enhancing innovation performance using QM hospitals in Saudi Arabia. This assessment involves using all the QM practices. For example, managers and decision makers can use training and education to empower and involve their employees to be innovative and creative or can use strategic planning practice to enlarge the perception of the hospital with regard to the importance of quality service to innovation.

6.5 Limitations of the study

Limitations in this study need consideration. First, this study analyzed data collected from managers of hospitals and did not involve other types of organizations. Second, this study only used cross-sectional questionnaire to collect the data. Cross-sectional questionnaire studies explain only the relationship in one-time point, not the change of the relationship during the time. QMPs effect may increase or decrease because of some unexpected economic or political change throughout time. Third, the study involved only one country, namely, KSA.

6.6 Recommendations for future research

Future studies pursuing research directions similar to the current study may consider collecting data from both the managerial and individual level staff to grant the analysis with comparison-based views. Future studies may also consider using qualitative research design to delve further into the different insights possibly gained from interviews and observations. Furthermore, future studies can extend the current work by conducting a

longitudinal study to examine the effect of QMPs and innovation performance in the hospitals. Longitudinal study overcomes the limitation of using only cross-sectional questionnaire with regard to the role of time in changing relationships. Finally, future research can include other geographical areas or countries to compare the results between the different areas or countries.

The study has showed that there is an impact between QMPs and innovation performance at hospitals of KSA. Future research could also be focused on the planned aspects of applying QMPs and establishing an innovation culture to best develop of competitive advantages. This will help devise a probable model that KSA hospitals could use to bring the theoretical approaches and QM advantages into practical operation. This demonstrates how the working culture and innovation culture can be made more success and the specific selected QMPs in hospitals can be usefully and effective.

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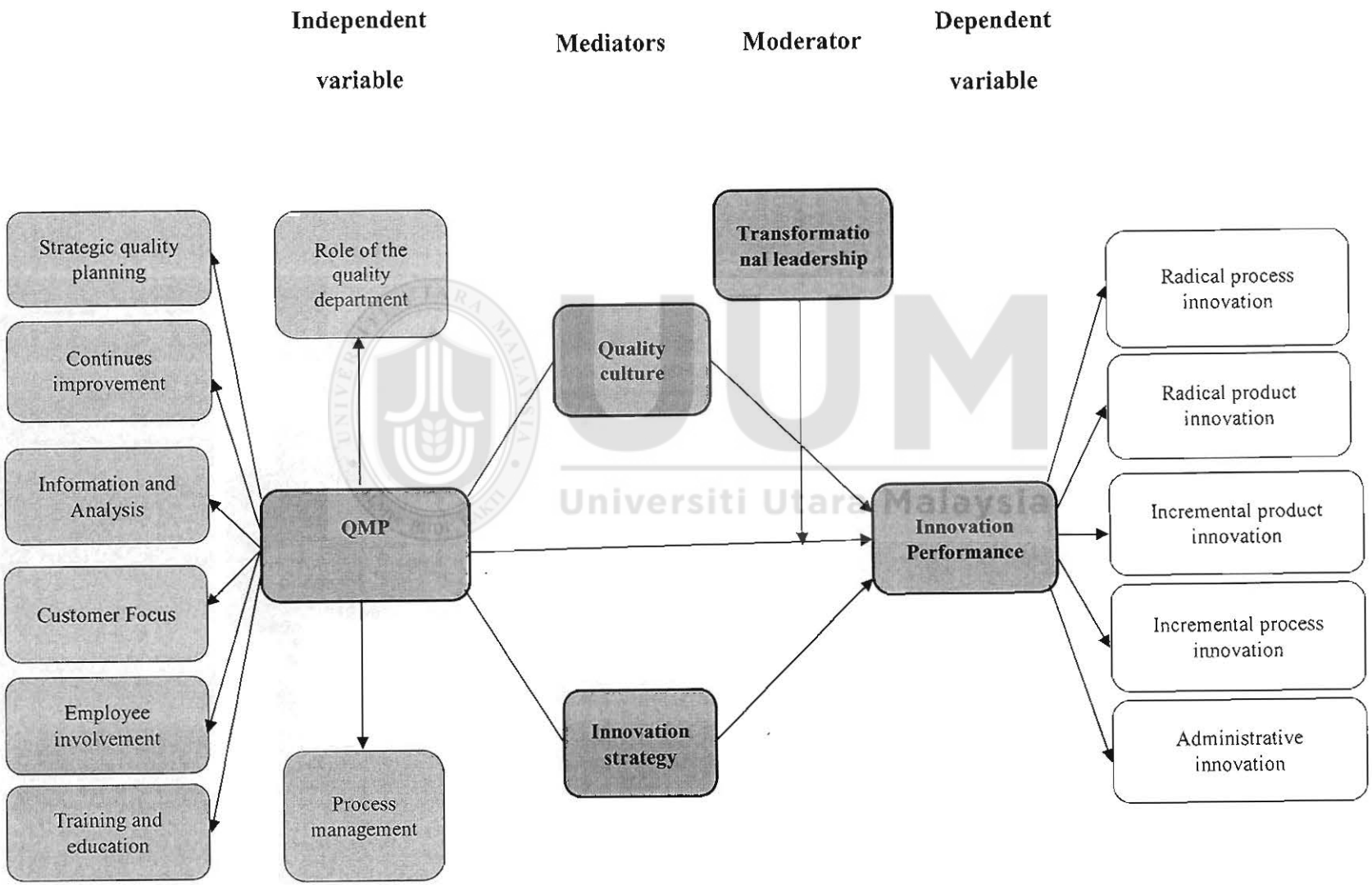
APPENDIX A

Model of the current study



APPENDIX B

QUESTIONNAIRE

I am conducting a study for the purpose of scientific research to examine the impact of Quality management practices on innovation performance in hospitals in order to enhance the overall performance. When the study completed, I will be awarded a PhD in Business Management from Universiti Utara Malaysia. The title of the study is "Impact of quality management practices on innovation performance in hospitals: with the intervening role of quality culture and innovation strategy".

It would be appreciated if you used your time to answer the enclosed questionnaires. Your participation is very important and significant. Information you give will make the importance of the study. The information gathered will be treated confidentially and only be used the purpose of this study scientific research.

Thank you for your cooperation.

Regards,
The researcher:
Ghanem Alotaibi
Cell phone: +966533969696
Email: g121@hotmail.com

Part A: Demographic Information

This section seeks general information about your position and the hospital, please circle the appropriate letter in the first question and give the answer for the second question.

1. How many years have you been in your position?

a. 1 – 3 b. 4– 6 c. 6– 10 d. more than 10

2. Location of the hospital

.....

The following parts (part B - F) seek information on five main variables namely Quality Management Practices, quality culture, transformational leadership, innovation strategy and innovation performance. Please tick () following:

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

Construct	Measurement Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Part B **Quality Management Practices**	**Training and education**					
	5. Hospital employees are given education and training in how to identify and act on quality improvement opportunities					
	6. Hospital employees are given education and training in methods that support quality improvement.					
	7. Hospital employees are given the needed education and training to improve job skills and performance.					
	8. Hospital employees are rewarded and recognized (e.g., financially and/or otherwise) for improving quality					
	Employee involvement					
	5. Teamwork and consensus are important in our hospital					
	6. Our hospital encourages employees to participate in decision making					
	7. Our hospital tries to understand the point of view of patients in defining the quality of health services.					
	8. Our hospital's senior management encourages teamwork across units and disciplines					
	Strategic quality planning					
	8. Hospital employees are given adequate time to plan for and test improvements.					

	9. Each department and work group within this hospital maintains specific goals to improve quality					
	10. The hospital's quality improvement goals are known throughout the organization.					
	11. Hospital employees are involved in developing plans for improving quality.					
	12. Middle managers (e.g., department heads, program directors, and first line supervisors) are playing a key role in setting priorities for quality improvement					
	13. External customers are playing a key role in setting priorities for quality improvement					
	14. Non-managerial employees are playing a key role in setting priorities for quality improvement					
	Customer focus					
	4. The hospital does a good job of assessing current patient needs and expectations.					
	5. Hospital employees promptly resolve patient complaints.					
	6. Patients' complaints are studied to identify patterns and prevent the same problems from recurring.					
	7. The hospital uses data from patients to improve services					
	8. The hospital does a good job of assessing physician satisfaction with hospital services.					
	9. The hospital uses data on customer expectations and/or satisfaction when designing new services.					
	Information and analysis					
	7. The hospital collects a wide range of data and information about the quality of care and services.					
	8. The hospital uses a wide range of data and information about the quality of care and services to make improvements.					
	9. The hospital continually tries to improve how it uses data and information on the quality of care and services.					
	10. The hospital continually tries to improve the accuracy and relevance of its data on the quality of care and services provided.					
	11. The hospital continually tries to improve the timeliness of its data on the quality of care and services provided					
	12. The hospital compares its data to data on the quality of care and services at other hospitals.					

	Continuous improvement					
	5. Managers in the hospital try to improve the quality of their service.					
	6. Managers in the hospital believe that quality improvement is their responsibility.					
	7. Managers in the hospital analyze their work services to look for ways of doing a better job.					
	8. The hospital has witnessed many improvements in the services					
	Process management					
	7. Quality data (defects, complaints, outcomes, time, satisfaction, etc.) are available.					
	8. Quality data are timely.					
	9. Quality data are used as tools to manage quality.					
	10. Quality data are available to hourly workers.					
	11. Quality data are available to managers and supervisors.					
	12. Quality data are used to evaluate supervisor and managerial performance.					
	Role of the quality department					
	1. Quality department in the hospital is visible and easy accessed by all.					
	2. Quality department's access to divisional top management is easy					
	3. Quality department in the hospital is independent.					
	4. There is a good level of coordination between the quality department and other departments					
	5. Quality department is effective in improving quality in the hospital					
Part C **Quality culture**	**Improvement orientation**					
	1. Workers who have a lot of experience doing something don't need to spend time collecting a lot of information to figure out how to do it better.					
	2. Trying to improve the way the work gets done is part of everyone's job.					
	3. An important part of everyone's job is to study the way we work.					
	4. A regular meeting to analyze the way work gets done makes an important contribution to improving customers' needs.					
	5. The idea of continually studying the way of work is important for all employees.					
	Teamwork Orientation					
	1. Employees and workers in different departments of the hospitals help each other					

	2. Employees and workers in different departments of the hospitals are comfortably suggesting changes and improvements to each other.					
	3. There is a lot of cooperation between groups in this hospital.					
	4. Groups in this hospital do not work together to solve problems					
	Mission and Goals Orientation					
	2. Employees and workers are aware of how their work contributes to the organization's mission.					
	3. Organization's mission is understood by everyone who works in the hospital.					
	4. Workers in this organization do not feel that the organization's goals have much to do with their work.					
	5. People who work in the hospital do not know exactly how their work contributes to the goals of the organization.					
	6. All employees and works understand the organization's goals.					
	Management Style					
	1. Employees and workers can easily meet and hear the management.					
	2. Employees and workers are aware of how their changes in their work affect others.					
	3. People in the organization usually listen to the ideas of change					
	4. Management of the hospital is willing to spend money to improve the quality of our services.					
	Personal Influence/Performance					
	7. My performance is judged more by how much work I do than by how well I do it.					
	8. Employees and workers in this organization are satisfied as long as the work meet the minimum standards.					
	9. Employees and workers have control over how things are done.					
	10. Employees and workers do not influence their groups on how things are done.					
Part D **Innovation strategy**	4. The organization's vision and mission include a reference to innovation.					
	2. Innovation strategy had helped the organization to achieve strategic goals.					
	3. Improving administrative routine is seen as part of our innovation strategy.					
	4. Internal cooperation is an important part of					

	innovation strategy implementation.					
	5. Customer satisfaction is part of our innovation strategy.					
	6. Improving service quality is one of our key objectives of innovation strategy.					
	7. Formulating innovation strategy increases employees' skills.					
	8. Improving employees' commitment, morale, or both is part of our innovation strategy monitoring.					
Part E **Transformational leadership**	14. Top manager of the hospital talk about most important values and beliefs.					
	15. Top manager of the hospital seek differing perspectives when solving problems.					
	16. Top manager of the hospital talk optimistically about the future.					
	17. Top manager of the hospital are pride of being associated with their employees.					
	18. Top manager of the hospital talk enthusiastically about what needs to be accomplished.					
	19. Top manager of the hospital specify the importance of having a strong sense of purpose.					
	20. Top manager of the hospital spend time teaching and coaching.					
	21. Top manager of the hospital go beyond self-interest for the good of the group.					
	22. Top manager of the hospital give each employee his autonomy as an individual rather than a member of a group.					
	23. Top manager of the hospital act in way that builds employee's respect.					
	24. Top manager of the hospital consider the moral and ethical consequences of decisions.					
	25. Top manager of the hospital display a sense of power and confidence.					
	26. Top manager of the hospital articulate a compelling vision of the future.					
	27. Top manager of the hospital consider each employee as having different needs, abilities, and aspirations from others.					
	28. Top manager of the hospital get their employee to look at problems from many different angles.					
	29. Top manager of the hospital help their employee to develop their own strengths.					
	30. Top manager of the hospital suggest new ways of looking at how to complete					

	assignments.					
	31. Top manager of the hospital emphasize the importance of having a collective sense of mission.					
Part F **Innovation performance**						
	Process innovation					
	5. The number of new process in our hospital has increased in the last 5 years					
	6. Our hospital is the first one offering new process compared to other hospitals					
	7. Our hospital changes and develops new process faster than other hospitals					
	8. Our hospital is faster in applying new process.					
	9. Our hospital encourages the new ideas presented to develop new process					
	Service innovation					
	1. Our hospital is the first one offering new service compared to other hospitals					
	2. The number of new services in our hospital has increased in the last 5 years					
	3. Our hospital encourages the new ideas presented to develop new service					
	4. Our hospital changes and develops new service creation methods faster than other hospitals					
	5. Our hospital is faster in bringing the new service to the people who use the service					

Thank you for using your time

APPENDIX C

ARABIC QUESTIONNAIRE

استبيان

السيد المدير

السلام عليكم ورحمة الله وبركاته

تحيه طيبه وبعد
أنا بصدد إجراء دراسة لغرض البحث العلمي حول اثر ممارسات ادارة الجودة على الابتكار. عند اكمال الدراسة سيتم منحي شهادة الدكتوراه في الإدارة الصحية من جامعة اوتارا ماليزيا، عنوان الدراسة هو "أثر ممارسات ادارة الجودة على اداء الابتكار فى المستشفيات السعودية." سأكون ممتناً جداً لتعاونكم بالإجابه على الأسئلة فى هذا الاستبيان.

سيتم التعامل مع المعلومات التي تم جمعها بصورة سرية ولن تستخدم إلا لأغراض هذه الدراسة والبحث العلمي.
مدة الاستبيان: من 10 الى 15 دقيقة

تقبلوا فائق التقدير والاحترام وجزيل الشكر والعرفان

وتمنياتنا بالتوفيق للجميع

الباحث : غانم العتيبي
الهاتف المحمول : - 00966533969696
البريد الالكتروني: g121@hotmail.com

القسم أ : معلومات ديموغرافية
هذا القسم به اسئلة عن المعلومات الخاصة بالمنصب. رجاءا اجب على الاسئلة التالية

1. عدد السنين التى قضيتها فى منصبك الحال
   a. 1 – 3
   b. 4 – 6
   c. 7 – 10
   d. اكثر من 10
2. اسم المحافظة التى بها المستشفى:

الاقسام التالية من ب الى د تحتوى على اسئلة لقياس متغيرات الدراسة. ضع علامة (✔) لتدل على احد الخيارات (لا اوافق بشدة ، لا اوافق ، محايد، اوافق ، اوافق بشدة)

القسم	الاسئلة	اوافق بشدة	اوافق	محايد	لا اوافق	لا اوافق بشدة
القسم ب: عن ممارسات ادارة الجودة	**التدريب والتعليم**					
	1. يتم تدريب موظفي المستشفى على كيفية تحديد وايجاد فرص تحسين الجودة					
	2. يتم تدريب موظفي المستشفى على أساليب تحسين الجودة.					
	3. يتم تدريب موظفي المستشفى التدريب اللازم لتحسين مهارات العمل والأداء.					
	4. تقوم الادارة بمكافاة موظفي مستشفى مكافات مالية و غيرها من أجل تحسين جودة					
	العمل الجماعي والمشاركة					
	1. العمل الجماعي والتوافق بين الموظفين مهمين في هذه المستشفى					
	2. يشجع مستشفانا الموظفين على المشاركة في صنع القرار					
	3. يحاول مستشفانا بصورة مستمرة فهم وجهة نظر الموظفين و المرضى في تحديد نوعية وجودة الخدمات الصحية.					
	4. تقوم الإدارة العليا فى المستشفي بتشجيع العمل الجماعي عبر الوحدات والتخصصات					
	التخطيط الاستراتيجي					
	1. يعطى موظفي المستشفى الوقت الكافي للتخطيط والتحسين.					
	2. كل الاقسام داخل هذا المستشفى لها أهداف محددة لتحسين جودة					
	3. أهداف تحسين الجودة في هذه المستشفى معروفة وواضح للجميع					
	4. يشارك موظفي المستشفى في وضع خطط تحسين الجودة					
	5. رؤساء الأقسام ومديري الوحدات والبرامج والمشرفين جميعهم يلعبون دورا رئيسيا في تحديد الأولويات لتحسين الجودة					
	6. يلعب المرضى دورا رئيسيا في تحديد الأولويات لتحسين الجودة					
	7. الموظفين غير الإداريين يلعبون دورا رئيسيا في تحديد الأولويات لتحسين الجودة					
	التركيز على العملاء					
	1. يقوم المستشفى بعمل جيد لتقييم احتياجات المتعاملين الحالية والتوقعات					
	2. يقدم موظفي المستشفى حلولا فورية لشكاوى المتعاملين					

3. يتم دراسة الشكاوى المتعاملين بدقة لتحديد أنماطها ومنع المشاكل نفسها من التكرار						
4. يستخدم مستشفى البيانات من المتعاملين للاستفادة منها في تحسين الخدمات						
5. المستشفى يقوم بعمل جيد لتقييم رضا العاملين والمتعاملين مع خدمات المستشفي						
6. يستخدم المستشفى بيانات توقعات العملاء ورضائهم عند تصميم خدمات جديدة						
المعلومات وتحليلها						
1. يقوم المستشفى بجمع البيانات والمعلومات حول نوعية الرعاية والخدمات بصورة مستمرة						
2. يستخدم المستشفى البيانات والمعلومات حول نوعية الرعاية والخدمات في تحسين الخدمات						
3. يحاول المستشفى باستمرار تحسين الطريقة التي يستخدم بها البيانات والمعلومات حول نوعية الرعاية والخدمات						
4. يحاول المستشفى باستمرار تحسين دقة وأهمية البيانات والمعلومات حول نوعية الرعاية والخدمات						
5. يحاول المستشفى باستمرار تحسين توقيت البيانات والمعلومات حول نوعية الرعاية والخدمات						
6. يقارن مستشفى باستمرار البيانات الخاصة به إلى البيانات عن نوعية الرعاية والخدمات في المستشفيات الأخرى						
التحسين المتواصل						
1. يحاول المستشفى بصورة مستمرة تحسين جودة الخدمات						
2. كل القائمين على امر المستشفى يعتقدون أن تحسين الجودة هى مسؤوليتهم						
3. كل القائمين على امر المستشفى يقومون بتحليل ادائهم من اجل تحسينه						
4. لقد شهدت المستشفى الكثير من التحسين في الخدمات						
ادارة الاجراءات والعمليات						
1. بيانات الجودة متوفرة و ويسهل الحصول عليها (فيما يخص والشكاوى، والنتائج ورضا المتعامل، وما إلى ذلك)						
2. بيانات الجودة لدينا دائما محدثة ومجددة.						
3. يتم استخدام بيانات الجودة بصورة فعالة في مهام إدارة الجودة.						
4. بيانات الجودة متوفرة و ويسهل الحصول عليها من قبل العمال						
5. بيانات الجودة متوفرة و ويسهل الحصول عليها من قبل المدراء والموظفين						
6. تستخدم بيانات الجودة في قياس اداء المدراء والموظفين						
دور قسم إدارة الجودة						
1. قسم ادارة الجودة في المستشفى متوفر ويسهل						

	الوصول اليه					
	2. يسهل على قسم ادارة الجودة فى المستشفى الوصول للادارة العليا فى المستشفى					
	3. يعمل قسم ادارة الجودة فى المستشفى باستقلالية وحيادية					
	4. يوجد تنسيق عالى بين قسم ادارة الجودة وبين بقية الاقسام فى المستشفى					
	5. قسم ادارة الجودة قسم فعال فى تحسين مستوى الجودة فى المستشفى					
	التوجه نحو التحسين الدائم					
القسم ج: عن ثقافة الجودة	1. الموظفون أصحاب الخبرة لدينا لا يحتاجون إلى قضاء وقت لتحصيل المعلومات وفهم طريقة القيام بالمهام على نحو أفضل.					
	2. إن محاولة تحسين طريقة إنجاز العمل مسئولية الجميع					
	3. من الأجزاء المهمة في عمل الجميع دراسة الطريقة التي نعمل بها.					
	4. إن الاجتماعات المنتظمة لتحليل طريقة إنجاز العمل تشكل مساهمة هامة في تحسين احتياجات العملاء.					
	5. إن فكرة الدراسة المستمرة لطريقة قيامنا بالعمل بحيث نتمكن من تحسين هذا العمل لا تنطبق حقيقة على عمل الجميع.					
	التوجيه بخصوص العمل الجماعي					
	1. يحاول العمال في الإدارات المختلفة مساعدة بعضهم البعض.					
	2. الأشخاص الذين أعمل معهم يقترحون التغييرات والتحسينات لبعضهم البعض					
	3. هنالك الكثير من التعاون بين مجموعات العمل في هذه الشركة					
	4. في غالبية مجموعات العمل بهذه الشركة، لا يعمل العمال معا لتسوية المشكلات.					
	التوجيه بشأن المهام والأهداف					
	1. يعلم معظم العاملين في هذه الشركة مدى مساهمة عملهم في تعزيز رساله الشركه.					
	2. رساله الشركة مفهومة لدى جميع من يعملون هنا.					
	3. لا يشعر العمال في هذه الشركة بأن أهداف الشركة لا تتعلق كثيرا بعملهم.					
	4. لا يعرف الأشخاص العاملين بالشركة بالتحديد إلى أي مدى يساهم عملهم في تحقيق أهداف الشركة					
	5. جميع من يعمل هنا يفهم بالتحديد ما هي الأهداف المحددة للشركة					
	أسلوب الإدارة					
	1. أستطيع في الغالب تصديق ما أسمعه من الإدارة.					
	2. عندما يقوم عمال هذه الشركة بإجراء تغييرات في					

	طريقة القيام بالاعمال، فإنهم غالبا يتحدثون مع الأشخاصالذين هذه التغييرات.					
	3. إذا كانت لدي فكرة لتحسين طريقة القيام بالعمل، فغالبا سيقوم الأشخاصالعاملين بالشركة بالاستماع لهذه الفكرة.					
	4. الأشخاصالذين يديرون هذه الشركة لديهم الاستعداد لإنفاق المال في تحسين جودة خدماتهم					
	التأثير/الأداء الشخصي					
	1. يحتسب أدائي بكميه العمل الذي أقوم به وليس بطريقة القيام بهذا العمل بشكل جيد.					
	2. العمال في هذه الشركة قانعين ما دام عملنا يلبي الحد الأدنى للمعايير					
	3. في حالة عملي، لدي سيطرة بسيطة على طريقة تنفيذ الأمور.					
	4. العمال في هذه الشركة يبذلون المزيد من الطاقة في تصيد الأخطاء وليس في فهم طريقة تنفيذ الأمور على النحوالصحيح من المرة الأولى					
	5. ليس لدي الكثير من التأثير على طريقة أداء الاعمال في مجموعة عملي.					
القسم د: عن استراتيجية الابتكار	1. رؤية المنظمة ورسالتها تشمل على الابتكار.					
	2. استراتيجية الابتكار لدينا قد ساعدت المستشفى فى تحقيق الأهداف.					
	3. تحسين الروتين الاداري يعتبر جزء من استراتيجية الابتكار لدينا.					
	4. التعاون الداخلي هو جزء مهم فى تنفيذ استراتيجية الابتكار.					
	5. رضا العملاء هو جزء مهم من استراتيجية الابتكار لدينا.					
	6. تحسين نوعية الخدمة هي واحدة من الأهداف الرئيسية لاستراتيجية الابتكار.					
	7. صياغة استراتيجية الابتكار تحتوى على زيادة مهارات الموظفين.					
	8. تحسين التزام الموظفين، والروح المعنوية هى جزء من استراتيجية الابتكار لدينا					
القسم هـ: عن قيادة الجودة	1. يتحدث حول اهم القيم والمعتقدات لديه					
	2. يبحث عن وجهات نظر مختلفة عند حل المشاكل					
	3. يتحدث بتفاؤل حول المستقبل					
	4. لي الفخر بالعمل معه					
	5. يناقش بمصطلحات محددة من هو المسئول عن تحقيق اهداف الاداء					
	6. يحدد اهمية الحصول على احساس قوي بالقصد (الغرض)					
	7. يعطى من وقته للتدريس والتدريب					

	8. يتجاوز المصلحة الذاتية لصالح الجماعة					
	9. يعطى كل فرد خصوصيته فى التعامل					
	10. يعمل بطرق تزيد من تقديري له					
	11. يهتم بالنتائج الاخلاقية والمعنوية للقرارات					
	12. يظهر شعورا بالقوة والثقة					
	13. يشكل رؤية واضحة للمستقبل					
	14. يعتبرني شخصا ذا حاجات وقدرات والهام مختلفة عن الآخرين					
	15. يساعدني في تفحص المشاكل من عدة زوايا					
	16. يساعدني في تطوير مكامن القوة لدي					
	17. يقترح طرقا جديدة في البحث عن كيفية انجاز المهام					
	18. يؤكد على اهمية وجود حس جماعي بالمهمة					
القسم د:	**الابتكار فى العمليات والاجراءات**					
عن اداء الابتكار	1. لقد زاد عدد من العمليات والاجراءات المستحدثة والمحسنة في المستشفى في آخر 5 سنوات					
	2. مستشفانا هو الرائد فى تطبيق العمليات و الاجراءات الجديدة					
	3. يتم تطبيق العمليات والاجراءات الجديدة فى المستشفى بصورة أسرع من المستشفيات أخرى					
	4. مستشفانا هو الاسرع في ايجاد وتحديث وتطبيق العمليات والاجراءات					
	5. مستشفانا دائما يعمل على تشجيع وتحفيز الافكار الجديدة المتعلقة بالعمليات والاجراءات					
	الابتكار في الخدمة					
	1. مستشفانا هو الاسرع في ايجاد وتحديث وتطبيق الخدمات الجديدة					
	2. لقد زاد عدد الخدمات المستحدثة والمحسنة في المستشفى في آخر 5 سنوات					
	3. مستشفانا دائما يعمل على تشجيع وتحفيز الافكار الجديدة المتعلقة الخدمات					
	4. مستشفانا هو الرائد فى تطبيق الخدمات الجديدة					
	5. يتم تطبيق العمليات والاجراءات الجديدة فى المستشفى بصورة أسرع من المستشفيات أخرى					